(This search is the highest priority search submitted this week by me.)

Access DB# 99199

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 7/18/2003
Art Unit: 1774 Phone Number 30 5-0788 Serial Number: 09/935,711
Mail Box and Bldg/Room Location: CP3 8B32 (Mailbox 11D03) Results Format Preferred (circle): PAPER DISK E-MAIL

If mor than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: LIGHT-EMITTING DEVICE AND MATERIAL THEREFORE

Inventors (please provide full names):

HASHI OKADA, TOSHIHIRO ISE, MASAYUKI MISHIMA
TOSHIKI TAGUCHI

Earliest Priority Filing Date: JAPAN (2000-254171) 8/24/00
(ALSO JP 2001-038718 AND JP 2001-236419)

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Search formula (I) attached as part of an electroluminescent device.

Also search when
R is an aliphatic group, an aryl group, or a heterocyclic group

Search when X is $=N-$

Search when X is $=N-R^9$
(and R^9 represents a hydrogen atom, an aliphatic hydrogen gp., an aryl gp, or a heterocyclic group)

Search when Q is imidazole, oxazole, or thiazole

****

STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher: K. Fuller	NA Sequence (#)		STN	
Searcher Phone #:	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)	2	Questel/Orbit	
Date Searcher Picked Up:	Bibliographic		Dr.Link	
Date Completed: 7/21/03	Litigation		Lexis/Nexis	
Searcher Prep & Review Time: 20	Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time: 60	Other		Other (specify)	

PTO-1590 (8-01)

=> FILE REG
FILE 'REGISTRY' ENTERED AT 13:08:25 ON 21 JUL 2003

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 20 JUL 2003 HIGHEST RN 551897-78-0
DICTIONARY FILE UPDATES: 20 JUL 2003 HIGHEST RN 551897-78-0

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

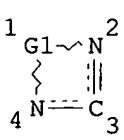
Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> FILE HCAPLUS
FILE 'HCAPLUS' ENTERED AT 13:08:29 ON 21 JUL 2003

FILE COVERS 1907 - 21 Jul 2003 VOL 139 ISS 4
FILE LAST UPDATED: 20 Jul 2003 (20030720/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE L31
L4 STR



Query

REP G1=(2-4) A

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

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L14       33319 SEA FILE=HCAPLUS ABB=ON  (LIGHT?(3A)?EMIT? OR EL OR ELECTROLUMI
                NES?)(6A)(DEVICE# OR DEV/RL)
L15             SEL  L14 1- RN :   50268 TERMS  (TERM LIMIT EXCEEDED)
L16             SEL  L14 28000- RN :    1823 TERMS
L17       50263 SEA FILE=REGISTRY ABB=ON  L15
L18        1816 SEA FILE=REGISTRY ABB=ON  L16
L19       51207 SEA FILE=REGISTRY ABB=ON  L17 OR L18
L22        2210 SEA FILE=REGISTRY SUB=L19 SSS FUL L4
L23      394959 SEA FILE=HCAPLUS ABB=ON  L22
L25         828 SEA FILE=HCAPLUS ABB=ON  L22(L)L14
L26        4281 SEA FILE=HCAPLUS ABB=ON  L23(L)LAYER?
L27         210 SEA FILE=HCAPLUS ABB=ON  L25 AND L26
L31          31 SEA FILE=HCAPLUS ABB=ON  L27 AND (PAIR OR TWO OR 2)(3A)ELECTROD
                E?(S)LAYER?
```

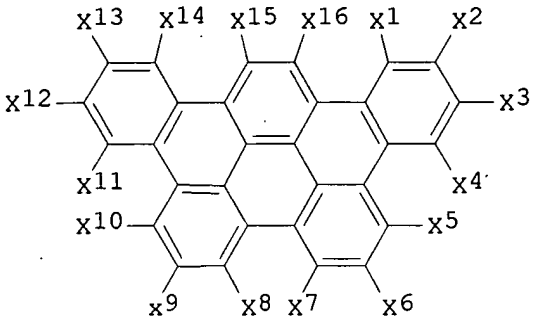
31 Ca references with utility

=> D L31 1-31 ALL HITSTR

L31 ANSWER 1 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:945153 HCAPLUS
DN 138:9541
TI Tribenzoperylene derivatives and organic electroluminescent devices using them
IN Nakatsuka, Masakatsu; Shimamura, Takehiko; Ishida, Tsutomu; Totani, Yoshiyuki
PA Mitsui Chemicals Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 53 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002359081	A2	20021213	JP 2002-88228	20020327
PRAI	JP 2001-91099	A	20010327		

OS MARPAT 138:9541
GI



I

AB The invention relates to an org. electroluminescent device comprising a **pair** of **electrodes** sandwiching .gtoreq.1 **layer** (s) contg. .gtoreq.1 tribenzo[b,n,pqr]perylene derivs. I [X1-16 = H, halo, straight, branched or cyclic alkyl, alkoxy, (un)substituted aryl(oxy), aralkyl or amino; adjacent groups of X1-16 may form (un)substituted carbon cyclic aliph. ring].

ST electroluminescent device tribenzoperylene deriv

IT Electroluminescent devices
(novel tribenzoperylene derivs. for)

IT Fluorescent substances
(novel tribenzoperylene derivs. for org. electroluminescent devices)

IT Hydrocarbons, uses
RL: DEV (Device component use); USES (Uses)
(novel tribenzoperylene derivs. for org. electroluminescent devices)

IT 2085-33-8 138372-67-5 **150405-69-9**
RL: DEV (Device component use); USES (Uses)
(electron injection/transport **layer**; novel tribenzoperylene derivs. for org. **electroluminescent devices**)

IT 38215-36-0
RL: DEV (Device component use); USES (Uses)
(green light-emitting component; novel tribenzoperylene derivs. for org. electroluminescent devices)

IT 65181-78-4
RL: DEV (Device component use); USES (Uses)
(hole injection/transport layer; novel tribenzoperylene derivs. for org. electroluminescent devices)

IT 24601-13-6 146162-52-9
RL: DEV (Device component use); USES (Uses)
(light-emitting layer contg.; novel tribenzoperylene derivs. for org. electroluminescent devices)

IT 190-81-8, Tribenzo[b,n,pqr]perylene 190-81-8D, Tribenzo[b,n,pqr]perylene, deriv. 25067-59-8 477336-81-5 477336-82-6
477336-83-7 477336-84-8 477336-85-9 477336-86-0 477336-87-1
477336-88-2 477336-89-3 477336-90-6 477336-91-7 477336-92-8
477336-93-9 477336-94-0 477336-95-1 477336-96-2 477336-97-3
477336-98-4 477336-99-5 477337-00-1 477337-01-2 477337-02-3
477337-03-4 477337-04-5 477337-05-6 477337-06-7 477337-07-8
477337-08-9 477337-09-0 477337-10-3 477337-11-4 477337-12-5
477337-13-6 477337-14-7 477337-15-8 477337-17-0 477337-18-1
477337-19-2 477337-20-5 477337-21-6 477337-22-7 477337-23-8
477337-24-9 477337-25-0 477337-26-1 477337-27-2 477337-28-3
477337-29-4 477337-30-7 477337-31-8 477337-32-9 477337-33-0
477337-34-1 477337-35-2 477337-36-3 477337-37-4

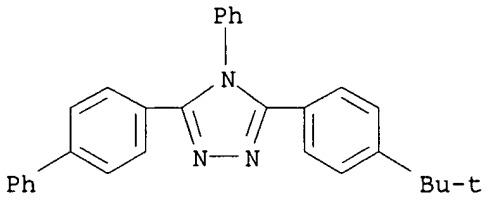
RL: DEV (Device component use); USES (Uses)
(novel tribenzoperylene derivs. for org. electroluminescent devices)

IT 51325-91-8, DCM-1
RL: DEV (Device component use); USES (Uses)
(orange light-emitting component; novel tribenzoperylene derivs. for org. electroluminescent devices)

IT **150405-69-9**
RL: DEV (Device component use); USES (Uses)
(electron injection/transport **layer**; novel tribenzoperylene derivs. for org. **electroluminescent devices**)

RN 150405-69-9 HCAPLUS

CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (9CI) (CA INDEX NAME)



L31 ANSWER 2 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:736538 HCAPLUS

DN 137:255104

TI Electroluminescent devices

IN Kathirgamanathan, Poopathy; Lara, Juan Antipan

PA Elam-T Limited, UK

SO PCT Int. Appl., 76 pp.
CODEN: PIXXD2

DT Patent

LA English

IC ICM H01L033-00
ICS H01L051-30

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002075820	A1	20020926	WO 2002-GB1264	20020318

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI	GB 2001-6554	A	20010316
	GB 2001-6555	A	20010316
	GB 2001-6556	A	20010316
	GB 2001-6557	A	20010316

GB 2001-6558 A 20010316

AB Electroluminescent devices are described which comprise a **layer** of an electroluminescent compd. and a **layer** of porous silicon, optionally sandwiched between **two electrodes**. The electroluminescent material may be a chelate, organometallic compd., or conjugated polymer.

ST electroluminescent device porous silicon

IT Electroluminescent devices
(electroluminescent devices with porous silicon layers adjacent to electroluminescent compd. layers)

IT Actinide compounds
Rare earth compounds
Transition metal compounds
RL: DEV (Device component use); USES (Uses)
(electroluminescent devices with porous silicon layers adjacent to electroluminescent compd. layers)

IT Luminescent substances
(electroluminescent; electroluminescent devices with porous silicon layers adjacent to electroluminescent compd. layers)

IT **147-14-8**, Copper phthalocyanine 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 14514-08-0 14552-07-9 14837-30-0 15492-51-0, Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)terbium 24082-36-8 25387-93-3 95270-88-5, Fluorene polymer 123847-85-8 124729-98-2 126213-51-2, Poly(ethylenedioxythiophene)
RL: DEV (Device component use); USES (Uses)
(**electroluminescent devices** with porous silicon **layers** adjacent to **electroluminescent** compd. **layers**)

IT 7440-21-3, Silicon, uses
RL: DEV (Device component use); USES (Uses)
(porous; electroluminescent devices with porous silicon layers adjacent to electroluminescent compd. layers)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

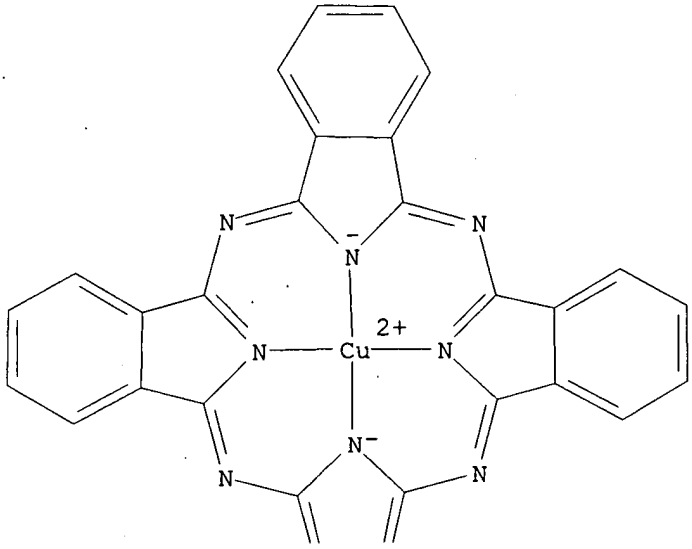
(1) Bsiesy, A; THIN SOLID FILMS 1995, V255(1/2), P43
(2) Canon Kk; EP 0886329 A 1998 HCAPLUS
(3) Dong, Y; APPLIED PHYSICS LETTERS 1998, V72(11), P1344 HCAPLUS
(4) Fuji Photo Film Co Ltd; EP 1052661 A 2000
(5) Jung, K; THIN SOLID FILMS 1995, V255(1/2), P317
(6) Junji, K; APPLIED PHYSICS LETTERS 1994, V65(17), P2124
(7) Kathirgamanathan, P; WO 0026323 A 2000 HCAPLUS
(8) Kathirgamanathan, P; WO 0032719 A 2000 HCAPLUS
(9) Kathirgamanathan, P; WO 0044851 A 2000 HCAPLUS
(10) Mo Gi Elektronnoj Tekhn Tekhn; RU 2086050 C 1997 HCAPLUS
(11) Wallace, R; US 5614785 A 1997 HCAPLUS

IT **147-14-8**, Copper phthalocyanine
RL: DEV (Device component use); USES (Uses)
(**electroluminescent devices** with porous silicon **layers** adjacent to **electroluminescent** compd. **layers**)

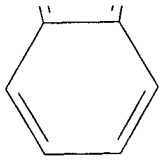
RN 147-14-8 HCAPLUS

CN Copper, [29H,31H-phthalocyaninato(2-)-.kappa.N29,.kappa.N30,.kappa.N31,.kappa.N32]-, (SP-4-1)- (9CI) (CA INDEX NAME)

PAGE 1-A

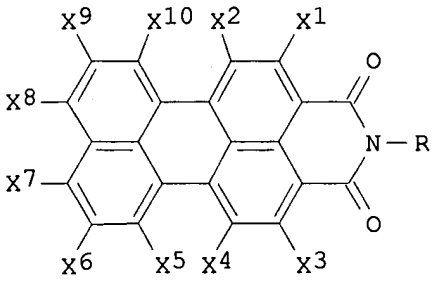


PAGE 2-A



L31 ANSWER 3 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:673167 HCAPLUS
DN 137:223887
TI Perylenedicarboxyimide derivatives and organic electroluminescent devices using them
IN Nakatsuka, Masakatsu; Shimamura, Takehiko; Ishida, Tsutomu; Totani, Yoshiyuki
PA Mitsui Chemicals Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 65 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 27
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002252084	A2	20020906	JP 2001-48071	20010223
PRAI	JP 2001-48071		20010223		
OS	MARPAT 137:223887				
GI					



I

AB Perylene-3,4-dicarboxyimide derivs. I [R = H, optional straight, branched or cyclic alkyl or alkenyl, (un)substituted aralkyl or aryl; X1-10 = H, halo, straight, branched or cyclic alkyl or alkoxy, (un)substituted aryl or aryloxy, nitro, (un)substituted amino] and org. electroluminescent devices including I in (emission **layers** or electron/hole injection transporting) **layers** between **pair** of **electrodes**, are claimed. The derives. are superior in luminous efficiency, and offer org. electroluminescence element which radiates in high brightness.

ST electroluminescent device perylenedicarboxyimide emission electron hole transport

IT Fluorescent substances
(novel perylenedicarboxyimide derivs. and their electroluminescent devices)

IT Electroluminescent devices
(novel perylenedicarboxyimide derivs. for)

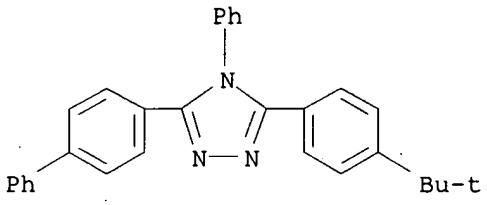
IT 1450-63-1P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(blue light-emitting layer component; novel perylenedicarboxyimide derivs. and their electroluminescent devices)

IT 2085-33-8P 138372-67-5P **150405-69-9P**
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(electron injection/transport **layer**; novel perylenedicarboxyimide derivs. and their **electroluminescent devices**)

IT 38215-36-0P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(green light-emitting layer component; novel perylenedicarboxyimide derivs. and their electroluminescent devices)

IT 65181-78-4P 124729-98-2P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(hole injection/transport layer; novel perylenedicarboxyimide derivs. and their electroluminescent devices)

IT 24601-13-6P 123847-85-8P 146162-52-9P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(light-emitting layer contg.; novel perylenedicarboxyimide derivs. and their electroluminescent devices)
IT 25067-59-8P 33955-44-1P, 1H-Perylo[3,4-cd]pyridine-1,3(2H)-dione
59681-17-3P 59681-19-5P 59681-21-9P 78830-84-9P 165261-27-8P
165261-30-3P 200066-01-9P 200066-02-0P 455949-33-4P 455949-34-5P
455949-35-6P 455949-36-7P 455949-37-8P 455949-38-9P 455949-39-0P
455949-48-1P 455949-69-6P 455950-00-2P 455950-12-6P 455950-13-7P
455950-14-8P 455950-18-2P 455950-19-3P 455950-20-6P 455950-21-7P
455950-24-0P 455950-27-3P 455950-30-8P 455950-31-9P 455950-38-6P
455950-42-2P 455950-43-3P 455950-44-4P 455950-65-9P 455950-82-0P
455950-92-2P 455950-96-6P 455951-02-7P 455951-03-8P 455951-05-0P
455951-07-2P 455951-08-3P 455951-09-4P 455951-11-8P 455951-12-9P
455951-36-7P 455951-37-8P 455951-38-9P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(novel perylenedicarboxyimide derivs. and their electroluminescent devices)
IT **150405-69-9P**
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(electron injection/transport **layer**; novel perylenedicarboxyimide derivs. and their **electroluminescent devices**)
RN 150405-69-9 HCAPLUS
CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (9CI) (CA INDEX NAME)



L31 ANSWER 4 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:573582 HCAPLUS
DN 137:131907
TI Manufacture of organic electroluminescent devices having high-brightness and high-efficiency emission
IN Okada, Hisashi
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H05B033-10
ICS C08K005-05; C08L101-00; H05B033-14
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI	JP 2002216956	A2	20020802	JP 2001-11826	20010119
PRAI	JP 2001-11826		20010119		

OS MARPAT 137:131907

AB The org. EL device capable of uniform surface emission consists of a **pair** of **electrodes** on a substrate, and in between, .gtoreq.1 org. compd. **layers** formed by applying its soln. thinned with a F compd.-contg. solvent and preferably, contg. .gtoreq.1 ionic substances. Preferably, the device has another layer of the org. compd. formed by applying its soln. thinned with a solvent free from the F compd. The F compd. may be fluorinated alcs., F-substituted ketones, F-substituted esters, fluorinated carboxylic acids, F-substituted amides, F-substituted alkanes, F-substituted arom. compds., and/or fluorinated ethers. The fluorinated alcs. may be shown as ACH2OH [A = CF3, CHF2(CF2)n; n = 1-5 integer]. Preferably, .gtoreq.1 layers of the org. compd. layers contain polymers which may be .pi.-conjugated polymers or nonconjugated polymers having .pi.-conjugation in partial structures. The substrate may be a plastic, preferably selected from polycarboantes, poly(ethylene terephthalate), poly(Me methacrylate), polyimides, polyesters, polyethers, polyether-sulfones, epoxy resins, polyolefins, and poly(vinyl chloride).

ST org electroluminescent device fluorine compd solvent; plastic substrate org electroluminescent device; luminescent substance org fluorinated alc solvent

IT Polyvinyl butyrals
RL: DEV (Device component use); USES (Uses)
(org. layer; manuf. of org. EL devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT Electroluminescent devices
(org.; manuf. of org. EL devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT Polysulfones, uses
RL: DEV (Device component use); USES (Uses)
(polyether-, substrate; manuf. of org. EL devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT Polyethers, uses
RL: DEV (Device component use); USES (Uses)
(polysulfone-, substrate; manuf. of org. EL devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT Epoxy resins, uses
Polycarbonates, uses
Polyesters, uses
Polyethers, uses
Polyimides, uses
Polyolefins
RL: DEV (Device component use); USES (Uses)
(substrate; manuf. of org. EL devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT 905-62-4, 2,5-Bis(1-naphthyl)-1,3,4-oxadiazole
RL: DEV (Device component use); USES (Uses)
(electron injection and transporting layer; manuf. of org. EL devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT 25067-59-8, Poly(N-vinylcarbazole)
RL: DEV (Device component use); USES (Uses)
(hole injection and transporting layer; manuf. of org. EL devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT 76-37-9, 2,2,3,3-Tetrafluoropropyl alcohol 107-06-2, 1,2-Dichloroethane, uses 60838-59-7

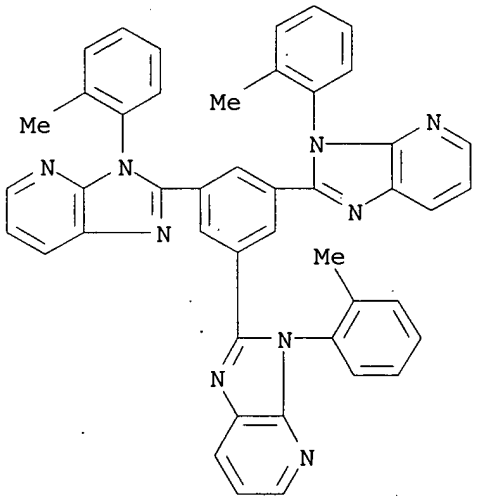
RL: NUU (Other use, unclassified); USES (Uses)
(manuf. of org. EL devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT 15635-95-7 110517-99-2 **358974-66-0**
RL: DEV (Device component use); USES (Uses)
(org. **layer**; manuf. of org. **EL devices** involving org. compd. **layers** formed by using F compd.-contg. solvents)

IT 9002-86-2, Poly(vinyl chloride) 9011-14-7, Poly(methyl methacrylate) 25038-59-9, Poly(ethylene terephthalate), uses
RL: DEV (Device component use); USES (Uses)
(substrate; manuf. of org. EL devices involving org. compd. layers formed by using F compd.-contg. solvents)

IT **358974-66-0**
RL: DEV (Device component use); USES (Uses)
(org. **layer**; manuf. of org. **EL devices** involving org. compd. **layers** formed by using F compd.-contg. solvents)

RN 358974-66-0 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



L31 ANSWER 5 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:388639 HCAPLUS
DN 136:393052
TI Single layer organic electroluminescent device
IN Araki, Katsumi; Okada, Hisashi; Qiu, Xue Peng; Mishima, Masayuki
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002151267	A2	20020524	JP 2000-348403	20001115
PRAI	JP 2000-348403		20001115		

AB The electroluminescent device comprises an org. compd. single **layer** contg. a light-emitting compd. sandwiched between a **pair** of **electrodes**; wherein electron mobility of the org. compd. **layer** is .gtoreq.(3 .times. 10-5)cm2.V-1.s-1 in an elec. field strength 400-1000 (V/cm)1/2. The device is capable of low-voltage operation, high luminance, high emission efficiency. and good high-temp. storage stability.

ST org electroluminescent device electron mobility control

IT Electroluminescent devices
(org.; single layer org. electroluminescent device)

IT Electron mobility
(single layer org. electroluminescent device)

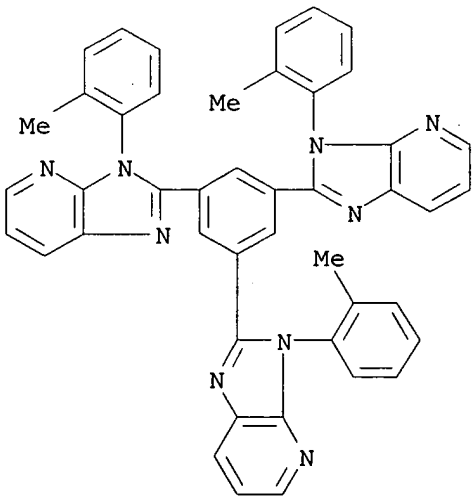
IT 4733-39-5 15082-28-7 26916-42-7 292624-58-9 353800-94-9 **358974-66-0**
RL: DEV (Device component use); USES (Uses)
(electron-injection and -transport material; single **layer** org. **electroluminescent device**)

IT 58328-31-7 65181-78-4
RL: DEV (Device component use); USES (Uses)
(host for phosphorscent substance; single layer org. electroluminescent device)

IT **358974-66-0**
RL: DEV (Device component use); USES (Uses)
(electron-injection and -transport material; single **layer** org. **electroluminescent device**)

RN 358974-66-0 HCAPLUS

CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



L31 ANSWER 6 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:354001 HCAPLUS

DN 136:377202

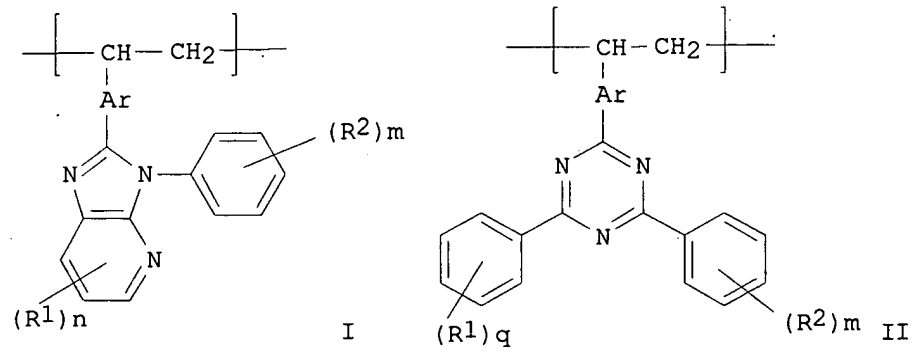
TI Light-emitting device and material therefor
IN Okada, Hisashi; Ise, Toshihiro; Mishima, Masayuki; Taguchi, Toshiki
PA Fuji Photo Film Co., Ltd., Japan
SO U.S. Pat. Appl. Publ., 91 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM H05B033-14
ICS C08F026-06
NCL 428690000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 27, 28, 38, 76

applicants

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002055014	A1	20020509	US 2001-935711	20010824
	JP 2002319491	A2	20021031	JP 2001-236419	20010803
PRAI	JP 2000-254171	A	20000824		
	JP 2001-38718	A'	20010215		
	JP 2001-236419	A	20010803		

OS MARPAT 136:377202
GI



AB Light-emitting devices comprising a **pair** of **electrodes** formed on a substrate and org. compd. **layers** comprising a light-emitting **layer** provided in between the electrodes are described in which .gtoreq.1 of the org. compd. **layers** comprises a heterocyclic compd. having .gtoreq.2 atoms and a phosphorescent compd.; polymers with repeating units described by the general formulas I and II (Ar = arylene or divalent heterocyclic group; R1 and R2 = independently selected H or substituent; n = 0-3; q = 0-5; and m = 0-5), which may be employed as the heterocyclic compds. in the devices, are also described. The devices may also employ polymers of heterocyclic compds. from which AR is absent. The phosphorescent compd. may be an org. metal complex.

ST electroluminescent device heterocycle phosphorescent compd mixt active layer; polymer heterocycle phosphorescent compd mixt active layer electroluminescent device

IT Phosphorescent substances
(light-emitting devices with emitting layers including heterocyclic

compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT Polycarbonates, uses
RL: DEV (Device component use); USES (Uses)
(light-emitting devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT Electroluminescent devices
(org.; light-emitting devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT **147-14-8**, Copper phthalocyanine 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, Bathocuproine 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride, uses 12033-89-5, Silicon nitride, uses 15082-28-7 24964-91-8, Tris(4-bromophenyl)aminium hexachloroantimonate 25067-59-8, Poly(N-vinylcarbazole) 37271-44-6 38215-36-0, Coumarin-6 50926-11-9, ITO **51269-91-1** 58328-31-7 65181-78-4, N,N'-Bis(3-methylphenyl)-N,N'-diphenylbenzidine 94928-86-6 153838-48-3 173394-18-8 182069-71-2 343978-78-9 **350025-75-1** **350025-76-2** **350025-78-4** **350025-79-5** 359014-69-0 370878-69-6 377092-13-2 422574-54-7, Silicon nitride oxide (SiN0.3O0.7) **422574-58-1** 422574-60-5 **422574-62-7** **422574-66-1** **422574-67-2** **422574-68-3** **422574-70-7** **422574-72-9** **422574-73-0** **422574-74-1** **422574-76-3** **422574-77-4** **422574-78-5** **422574-84-3** **422574-85-4** **422574-86-5** **422574-87-6** **422574-88-7** **422574-89-8** **422574-90-1** **423117-91-3** **423117-92-4** **423117-94-6** **423117-96-8** **423117-97-9** **423117-99-1** **423118-00-7** **423118-01-8** **423118-03-0** **423118-05-2** 423721-05-5 423721-07-7 423721-09-9
RL: DEV (Device component use); USES (Uses)
(**light-emitting devices** with **emitting layers** including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT **313950-73-1P** **328238-10-4P** **358974-66-0P** **377092-02-9P** **377092-06-3P** **377092-10-9P** **422574-56-9P** **422574-64-9P** **422574-83-2P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(**light-emitting devices** with **emitting layers** including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT 62-53-3, Aniline, reactions 95-53-4, o-Toluidine, reactions 104-15-4, p-Toluenesulfonic acid, reactions 108-44-1, m-Toluidine, reactions 578-66-5, 8-Aminoquinoline 586-75-4, 4-Bromobenzoyl chloride 603-35-0, Triphenylphosphine, reactions 769-92-6 876-08-4, 4-Chloromethylbenzoyl chloride 2039-82-9, 4-Bromostyrene 2156-04-9, 4-Vinylphenylboronic acid 2351-37-3, 4,4'-Biphenyldicarbonyl chloride **3842-55-5**, 2-Chloro-4,6-diphenyl-1,3,5-triazine 4422-95-1, 1,3,5-Benzenetricarbonyl trichloride 5470-18-8, 2-Chloro-3-nitropyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(**light-emitting devices** with **emitting layers** including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT 34949-41-2P 54696-64-9P 54696-67-2P 78750-58-0P 350025-73-9P **350025-74-0P** 377092-01-8P 377092-03-0P 377092-04-1P

377092-05-2P 377092-07-4P 377092-08-5P **422574-55-8P**
422574-61-6P 422574-63-8P 422574-79-6P 422574-80-9P
422574-81-0P 422574-82-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(**light-emitting devices** with **emitting layers** including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

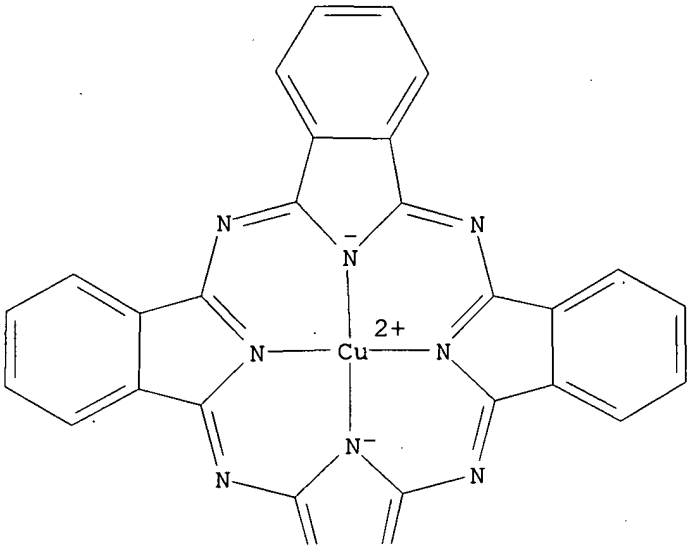
IT 50851-57-5
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(polyethylene dioxythiophene doped with; light-emitting devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

IT 126213-51-2, Poly(3,4-ethylenedioxythiophene)
RL: DEV (Device component use); USES (Uses)
(polystyrene sulfonate-doped; light-emitting devices with emitting layers including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

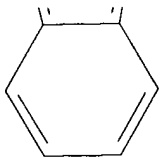
IT **147-14-8**, Copper phthalocyanine **51269-91-1**
350025-75-1 350025-76-2 350025-78-4
350025-79-5 422574-58-1 422574-62-7
422574-66-1 422574-67-2 422574-68-3
422574-70-7 422574-72-9 422574-73-0
422574-74-1 422574-76-3 422574-77-4
422574-78-5 422574-84-3 422574-85-4
422574-86-5 422574-87-6 422574-88-7
422574-89-8 422574-90-1 423117-91-3
423117-92-4 423117-94-6 423117-96-8
423117-97-9 423117-99-1 423118-00-7
423118-01-8 423118-03-0 423118-05-2
RL: DEV (Device component use); USES (Uses)
(**light-emitting devices** with **emitting layers** including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)

RN 147-14-8 HCAPLUS
CN Copper, [29H,31H-phthalocyaninato(2-)-.kappa.N29,.kappa.N30,.kappa.N31,.kappa.N32]-, (SP-4-1)- (9CI) (CA INDEX NAME)

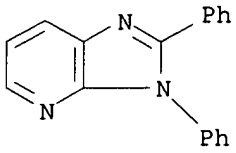
PAGE 1-A



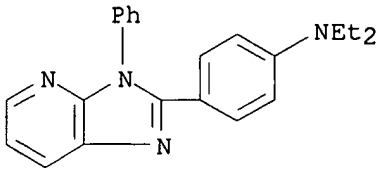
PAGE 2-A



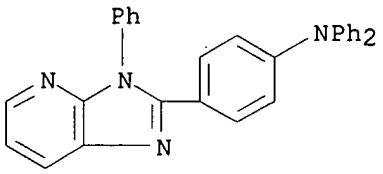
RN 51269-91-1 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2,3-diphenyl- (9CI) (CA INDEX NAME)



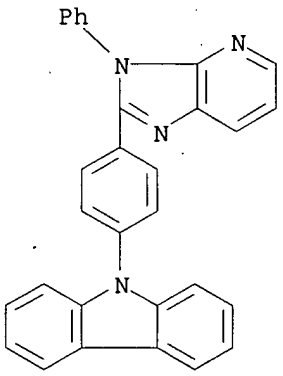
RN 350025-75-1 HCAPLUS
CN Benzenamine, N,N-diethyl-4-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl)- (9CI) (CA INDEX NAME)



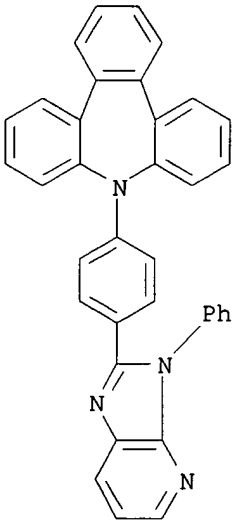
RN 350025-76-2 HCAPLUS
CN Benzenamine, N,N-diphenyl-4-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl)- (9CI) (CA INDEX NAME)



RN 350025-78-4 HCAPLUS
CN 9H-Carbazole, 9-[4-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl)phenyl]- (9CI) (CA INDEX NAME)



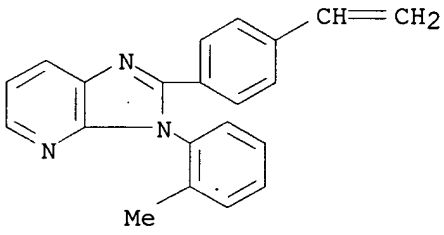
RN 350025-79-5 HCAPLUS
CN 9H-Tribenz[b,d,f]azepine, 9-[4-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl)phenyl]- (9CI) (CA INDEX NAME)



RN 422574-58-1 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2-(4-ethenylphenyl)-3-(2-methylphenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

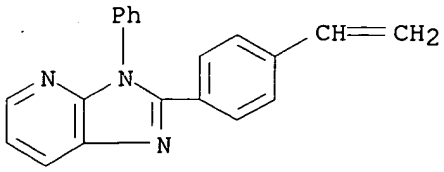
CRN 422574-57-0
CMF C21 H17 N3



RN 422574-62-7 HCAPLUS
CN 9H-Carbazole, 9-ethenyl-, polymer with 2-(4-ethenylphenyl)-3-phenyl-3H-imidazo[4,5-b]pyridine (9CI) (CA INDEX NAME)

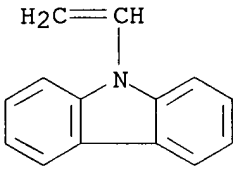
CM 1

CRN 422574-61-6
CMF C20 H15 N3



CM 2

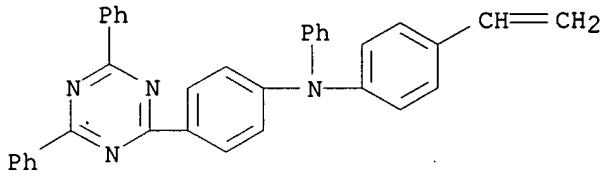
CRN 1484-13-5
CMF C14 H11 N



RN 422574-66-1 HCAPLUS
CN Benzenamine, 4-(4,6-diphenyl-1,3,5-triazin-2-yl)-N-(4-ethenylphenyl)-N-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

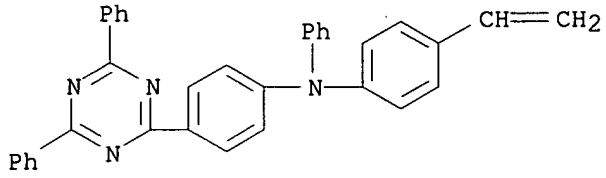
CRN 422574-65-0
CMF C35 H26 N4



RN 422574-67-2 HCAPLUS
CN Benzenamine, 4-(4,6-diphenyl-1,3,5-triazin-2-yl)-N-(4-ethenylphenyl)-N-phenyl-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

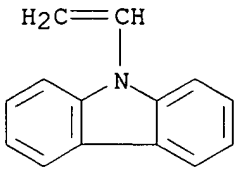
CM 1

CRN 422574-65-0
CMF C35 H26 N4



CM 2

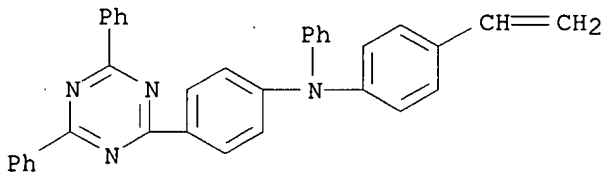
CRN 1484-13-5
CMF C14 H11 N



RN 422574-68-3 HCAPLUS
CN Benzenamine, 4-(4,6-diphenyl-1,3,5-triazin-2-yl)-N-(4-ethenylphenyl)-N-phenyl-, polymer with 2-(4-ethenylphenyl)-3-phenyl-3H-imidazo[4,5-b]pyridine (9CI) (CA INDEX NAME)

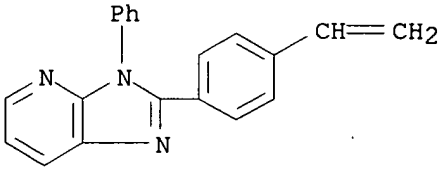
CM 1

CRN 422574-65-0
CMF C35 H26 N4



CM 2

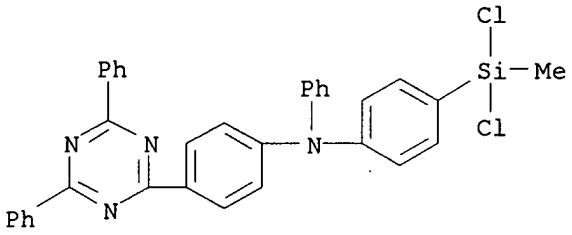
CRN 422574-61-6
CMF C20 H15 N3



RN 422574-70-7 HCAPLUS
CN Benzenamine, 4-(dichloromethylsilyl)-N-[4-(4,6-diphenyl-1,3,5-triazin-2-yl)phenyl]-N-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

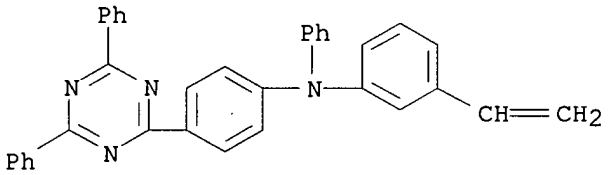
CRN 422574-69-4
CMF C34 H26 Cl2 N4 Si



RN 422574-72-9 HCAPLUS
CN Benzenamine, N-[4-(4,6-diphenyl-1,3,5-triazin-2-yl)phenyl]-3-ethenyl-N-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

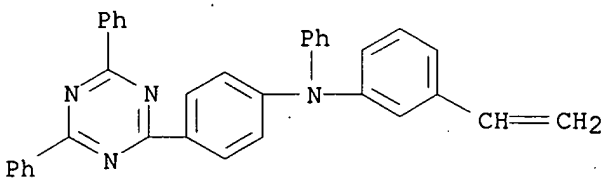
CRN 422574-71-8
CMF C35 H26 N4



RN 422574-73-0 HCAPLUS
CN Benzenamine, N-[4-(4,6-diphenyl-1,3,5-triazin-2-yl)phenyl]-3-ethenyl-N-phenyl-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

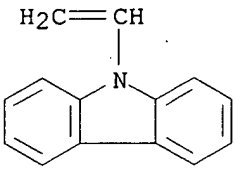
CM 1

CRN 422574-71-8
CMF C35 H26 N4



CM 2

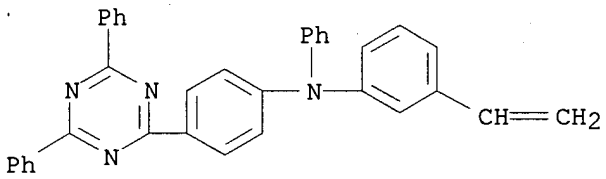
CRN 1484-13-5
CMF C14 H11 N



RN 422574-74-1 HCAPLUS
CN Benzenamine, N-[4-(4,6-diphenyl-1,3,5-triazin-2-yl)phenyl]-3-ethenyl-N-phenyl-, polymer with 2-(4-ethenylphenyl)-3-phenyl-3H-imidazo[4,5-b]pyridine (9CI) (CA INDEX NAME)

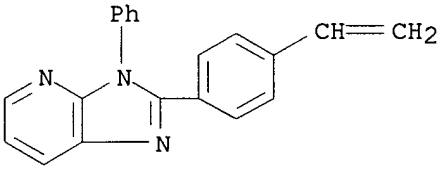
CM 1

CRN 422574-71-8
CMF C35 H26 N4



CM 2

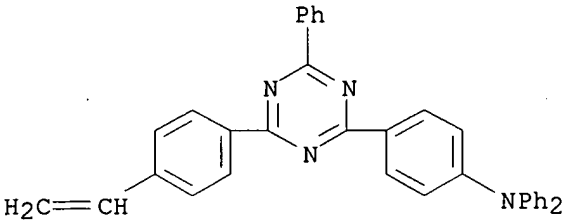
CRN 422574-61-6
CMF C20 H15 N3



RN 422574-76-3 HCAPLUS
CN Benzenamine, 4-[4-(4-ethenylphenyl)-6-phenyl-1,3,5-triazin-2-yl]-N,N-diphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

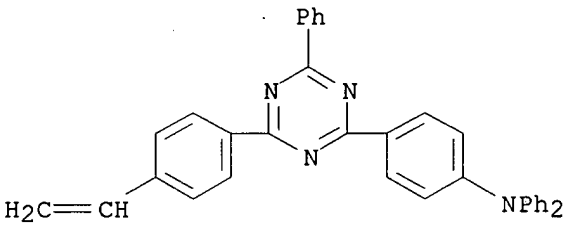
CRN 422574-75-2
CMF C35 H26 N4



RN 422574-77-4 HCAPLUS
CN Benzenamine, 4-[4-(4-ethenylphenyl)-6-phenyl-1,3,5-triazin-2-yl]-N,N-diphenyl-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

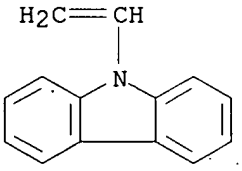
CM 1

CRN 422574-75-2
CMF C35 H26 N4



CM 2

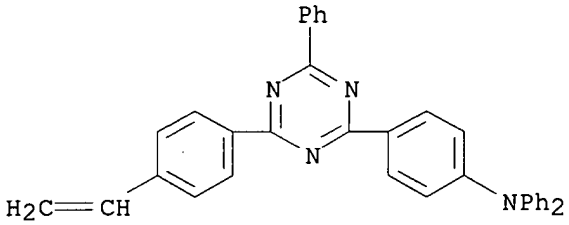
CRN 1484-13-5
CMF C14 H11 N



RN 422574-78-5 HCAPLUS
CN Benzenamine, 4-[4-(4-ethenylphenyl)-6-phenyl-1,3,5-triazin-2-yl]-N,N-diphenyl-, polymer with 2-(4-ethenylphenyl)-3-phenyl-3H-imidazo[4,5-b]pyridine (9CI) (CA INDEX NAME)

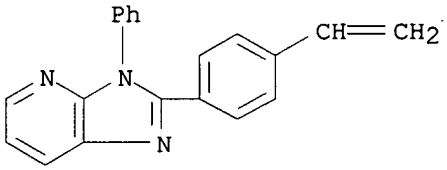
CM 1

CRN 422574-75-2
CMF C35 H26 N4

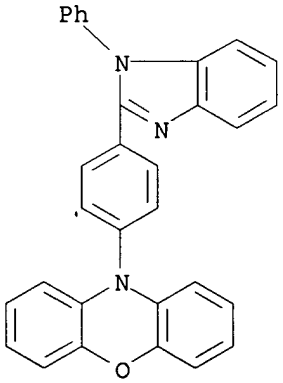


CM 2

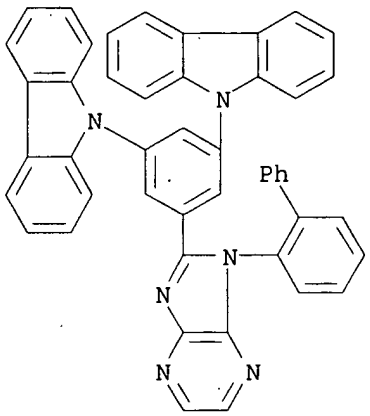
CRN 422574-61-6
CMF C20 H15 N3



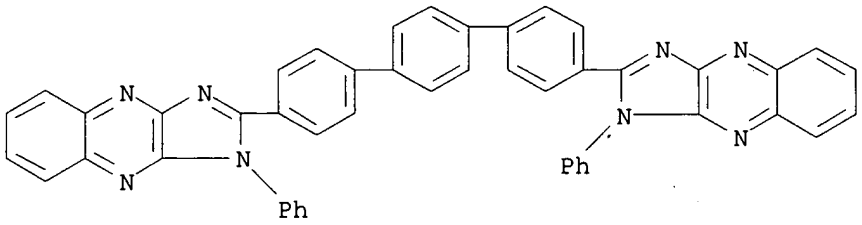
RN 422574-84-3 HCAPLUS
CN 10H-Phenoxazine, 10-[4-(1-phenyl-1H-benzimidazol-2-yl)phenyl]- (9CI) (CA INDEX NAME)



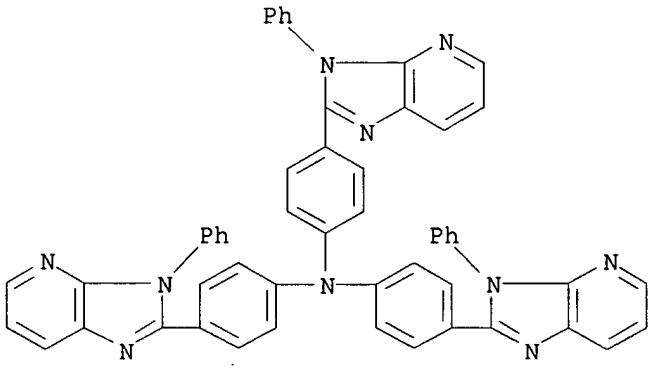
RN 422574-85-4 HCAPLUS
CN 9H-Carbazole, 9,9'-[5-(1-[1,1'-biphenyl]-2-yl-1H-imidazo[4,5-b]pyrazin-2-yl)-1,3-phenylene]bis- (9CI) (CA INDEX NAME)



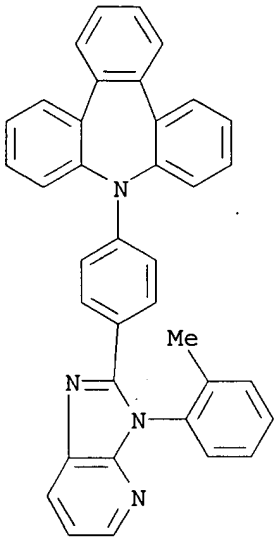
RN 422574-86-5 HCAPLUS
CN 1H-Imidazo[4,5-b]quinoxaline, 2,2'-[1,1':4',1''-terphenyl]-4,4''-diylbis[1-phenyl- (9CI) (CA INDEX NAME)



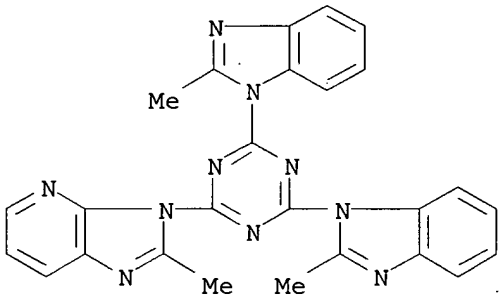
RN 422574-87-6 HCAPLUS
CN Benzenamine, 4-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl)-N,N-bis[4-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl)phenyl]- (9CI) (CA INDEX NAME)



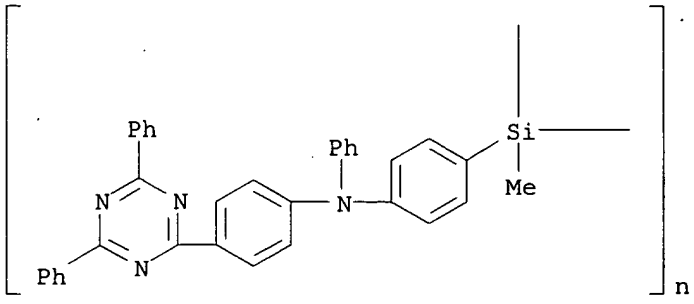
RN 422574-88-7 HCAPLUS
CN 9H-Tribenz[b,d,f]azepine, 9-[4-[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridin-2-yl]phenyl]- (9CI) (CA INDEX NAME)



RN 422574-89-8 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 3-[4,6-bis(2-methyl-1H-benzimidazol-1-yl)-1,3,5-triazin-2-yl]-2-methyl- (9CI) (CA INDEX NAME)



RN 422574-90-1 HCAPLUS
CN Poly[[4-[[4-(4,6-diphenyl-1,3,5-triazin-2-yl)phenyl]phenylamino]phenyl]methylsilylene] (9CI) (CA INDEX NAME)

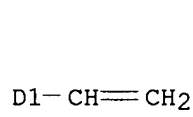


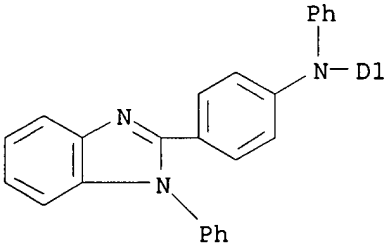
RN 423117-91-3 HCAPLUS
CN Benzenamine, ar-ethenyl-N-phenyl-N-[(1-phenyl-1H-benzimidazol-2-yl)phenyl]-

, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 423117-90-2
CMF C33 H25 N3
CCI IDS

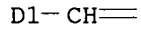


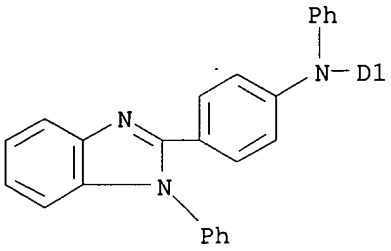


RN 423117-92-4 HCAPLUS
CN Benzenamine, ar-ethenyl-N-phenyl-N-[(1-phenyl-1H-benzimidazol-2-yl)phenyl]-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

CM 1

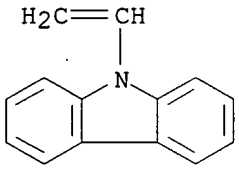
CRN 423117-90-2
CMF C33 H25 N3
CCI IDS





CM 2

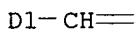
CRN 1484-13-5
CMF C14 H11 N

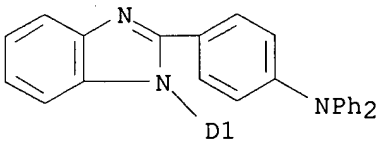


RN 423117-94-6 HCAPLUS
CN Benzenamine, 4-[1-(ethenylphenyl)-1H-benzimidazol-2-yl]-N,N-diphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 423117-93-5
CMF C33 H25 N3
CCI IDS

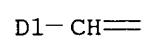


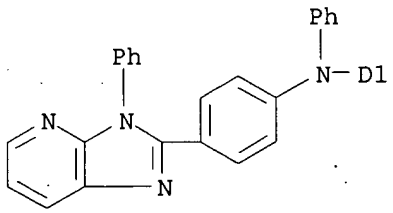


RN 423117-96-8 HCAPLUS
CN Benzenamine, ar-ethenyl-N-phenyl-N-[4-(1-phenyl-1H-imidazo[4,5-b]pyridin-2-yl)phenyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 423117-95-7
CMF C32 H24 N4
CCI IDS

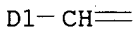


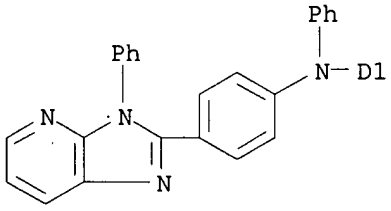


RN 423117-97-9 HCAPLUS
CN Benzenamine, ar-ethenyl-N-phenyl-N-[4-(1-phenyl-1H-imidazo[4,5-b]pyridin-2-yl)phenyl]-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

CM 1

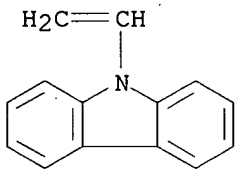
CRN 423117-95-7
CMF C32 H24 N4
CCI IDS





CM 2

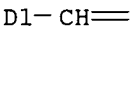
CRN 1484-13-5
CMF C14 H11 N

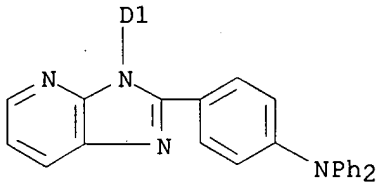


RN 423117-99-1 HCAPLUS
CN Benzenamine, 4-[1-(ethenylphenyl)-1H-imidazo[4,5-b]pyridin-2-yl]-N,N-diphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 423117-98-0
CMF C32 H24 N4
CCI IDS

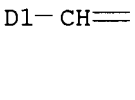


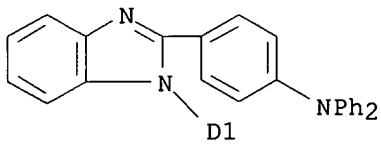


RN 423118-00-7 HCAPLUS
CN Benzenamine, 4-[1-(ethenylphenyl)-1H-benzimidazol-2-yl]-N,N-diphenyl-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

CM 1

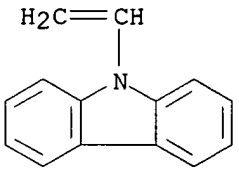
CRN 423117-93-5
CMF C33 H25 N3
CCI IDS





CM 2

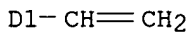
CRN 1484-13-5
CMF C14 H11 N

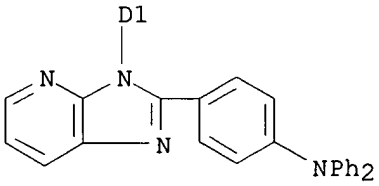


RN 423118-01-8 HCAPLUS
CN Benzenamine, 4-[3-(ethenylphenyl)-3H-imidazo[4,5-b]pyridin-2-yl]-N,N-diphenyl-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

CM 1

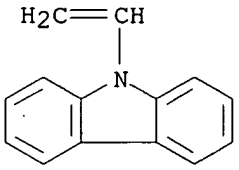
CRN 423117-98-0
CMF C32 H24 N4
CCI IDS





CM 2

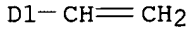
CRN 1484-13-5
CMF C14 H11 N

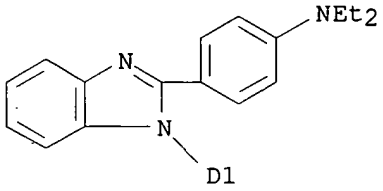


RN 423118-03-0 HCAPLUS
CN Benzenamine, 4-[1-(ethenylphenyl)-1H-benzimidazol-2-yl]-N,N-diethyl-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

CM 1

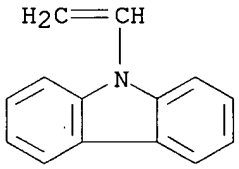
CRN 423118-02-9
CMF C25 H25 N3
CCI IDS





CM 2

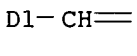
CRN 1484-13-5
CMF C14 H11 N

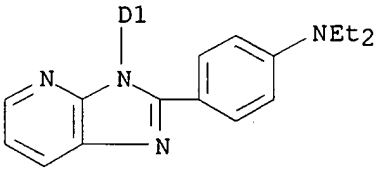


RN 423118-05-2 HCAPLUS
CN Benzenamine, 4-[3-(ethenylphenyl)-3H-imidazo[4,5-b]pyridin-2-yl]-N,N-diethyl-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

CM 1

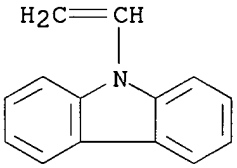
CRN 423118-04-1
CMF C24 H24 N4
CCI IDS



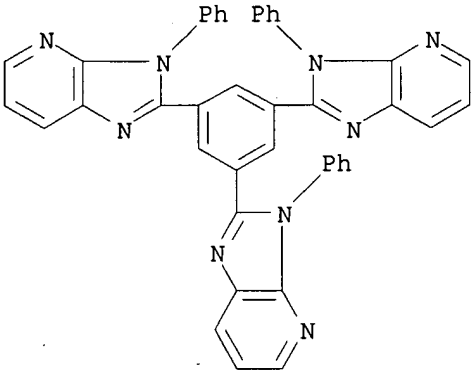


CM 2

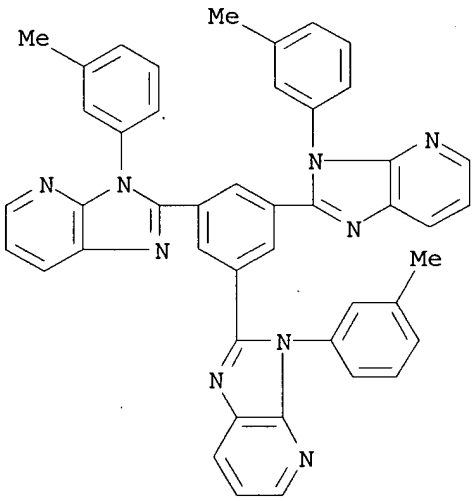
CRN 1484-13-5
CMF C14 H11 N



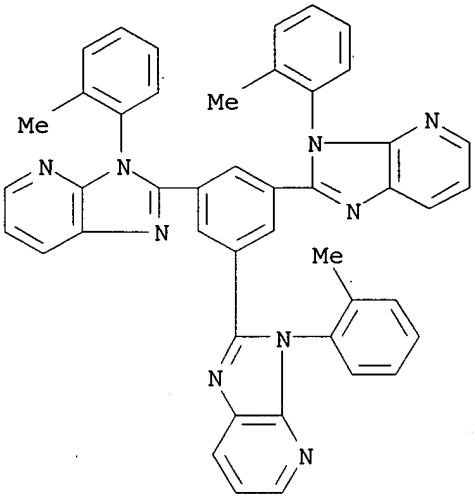
IT **313950-73-1P 328238-10-4P 358974-66-0P**
377092-02-9P 377092-06-3P 377092-10-9P
422574-56-9P 422574-64-9P 422574-83-2P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(**light-emitting devices** with **emitting layers** including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)
RN 313950-73-1 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-phenyl- (9CI) (CA INDEX NAME)



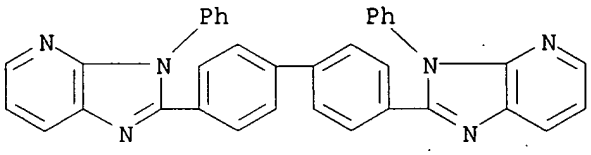
RN 328238-10-4 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(3-methylphenyl)- (9CI) (CA INDEX NAME)



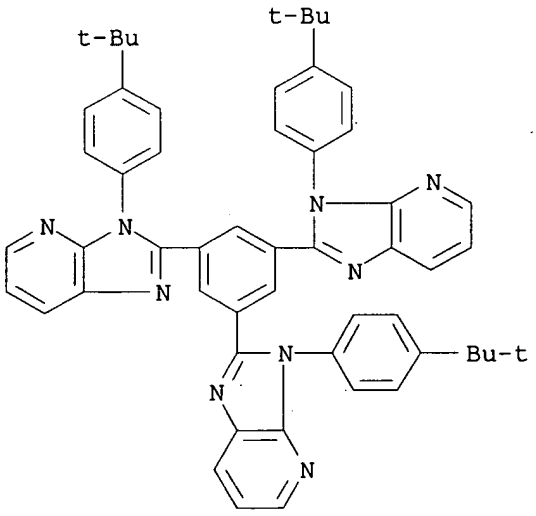
RN 358974-66-0 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-(2-methylphenyl)- (9CI) (CA INDEX NAME)



RN 377092-02-9 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[3-phenyl- (9CI) (CA INDEX NAME)

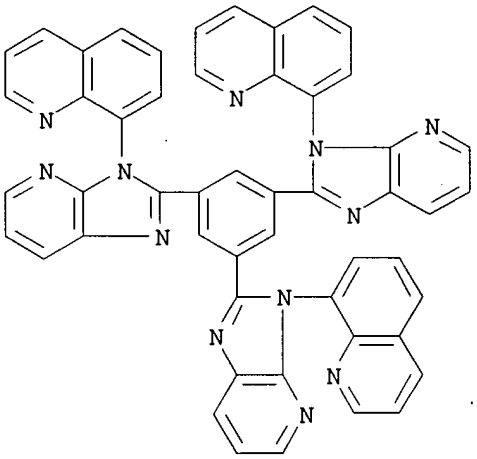


RN 377092-06-3 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2,2',2''-(1,3,5-benzenetriyl)tris[3-[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 377092-10-9 HCAPLUS

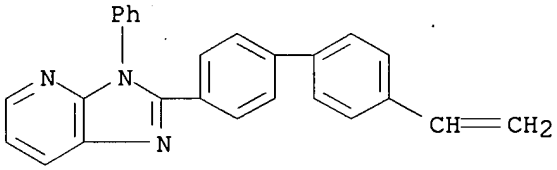
CN Quinoline, 8,8',8''-[1,3,5-benzenetriyltris(3H-imidazo[4,5-b]pyridine-2,3-diyl)]tris- (9CI) (CA INDEX NAME)



RN 422574-56-9 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2-(4'-ethenyl[1,1'-biphenyl]-4-yl)-3-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

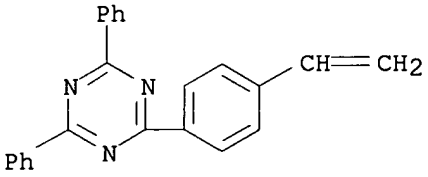
CRN 422574-55-8
CMF C26 H19 N3



RN 422574-64-9 HCAPLUS
CN 1,3,5-Triazine, 2-(4-ethenylphenyl)-4,6-diphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

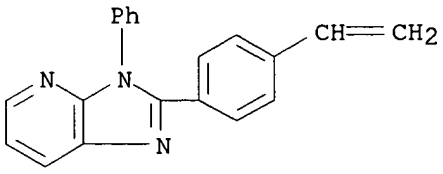
CRN 422574-63-8
CMF C23 H17 N3



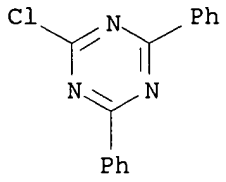
RN 422574-83-2 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2-(4-ethenylphenyl)-3-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

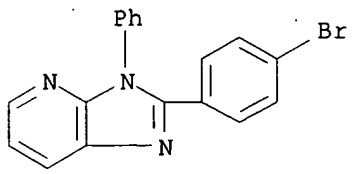
CRN 422574-61-6
CMF C20 H15 N3



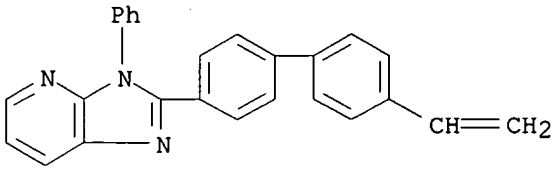
IT **3842-55-5,** 2-Chloro-4,6-diphenyl-1,3,5-triazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(**light-emitting devices** with **emitting layers** including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)
RN 3842-55-5 HCAPLUS
CN 1,3,5-Triazine, 2-chloro-4,6-diphenyl- (9CI) (CA INDEX NAME)



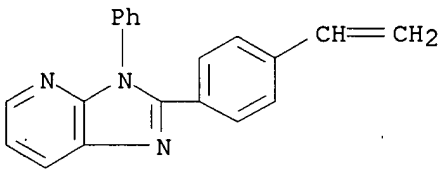
IT **350025-74-0P 422574-55-8P 422574-61-6P 422574-63-8P 422574-81-0P 422574-82-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(**light-emitting devices** with **emitting layers** including heterocyclic compds. and phosphorescent materials and heterocycle deriv. polymers for them)
RN 350025-74-0 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2-(4-bromophenyl)-3-phenyl- (9CI) (CA INDEX NAME)



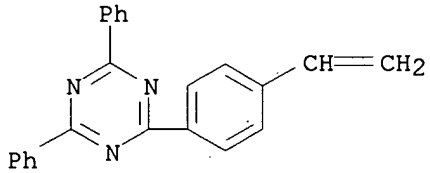
RN 422574-55-8 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2-(4'-ethenyl[1,1'-biphenyl]-4-yl)-3-phenyl- (9CI) (CA INDEX NAME)



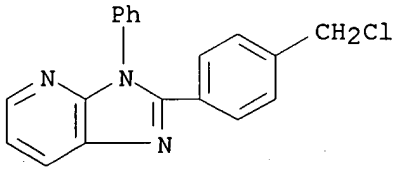
RN 422574-61-6 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2-(4-ethenylphenyl)-3-phenyl- (9CI) (CA INDEX NAME)



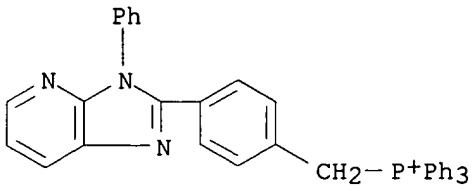
RN 422574-63-8 HCAPLUS
CN 1,3,5-Triazine, 2-(4-ethenylphenyl)-4,6-diphenyl- (9CI) (CA INDEX NAME)



RN 422574-81-0 HCAPLUS
CN 3H-Imidazo[4,5-b]pyridine, 2-[4-(chloromethyl)phenyl]-3-phenyl- (9CI) (CA INDEX NAME)



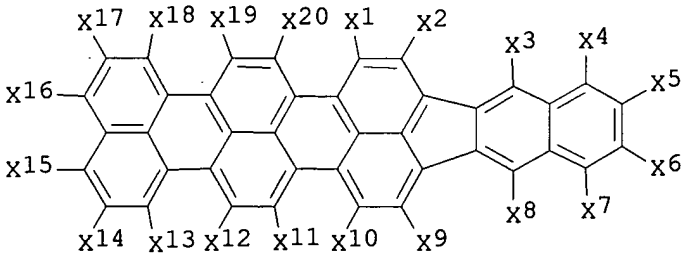
RN 422574-82-1 HCAPLUS
CN Phosphonium, triphenyl[[4-(3-phenyl-3H-imidazo[4,5-b]pyridin-2-yl)phenyl]methyl]-, chloride (9CI) (CA INDEX NAME)



L31 ANSWER 7 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:69661 HCAPLUS
DN 136:126326
TI Dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivatives and organic electroluminescent devices containing the same
IN Ishida, Tsutomu; Shimamura, Takehiko; Nakatsuka, Masakatsu
PA Mitsui Chemicals Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 56 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H05B033-14
ICS C07C013-62; C07C025-22; C07C043-21; C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 74
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002025777	A2	20020125	JP 2000-209226	20000711
PRAI JP 2000-209226		20000711		

OS MARPAT 136:126326
GI



I

AB The org. EL devices have a **pair** of **electrodes** and in between, .gtoreq.1 **layers**, maybe emitter **layers**, contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs., which may be shown as I (X1-X20 = H, halogen, alkyl, alkoxy, aryl). The I-contg. layer may further contain luminescent organometal complexes and triarylamine derivs. The device may further have a hole injection and

transport layer and an electron injection and transport layer between the electrodes. The device have high luminescent efficiency and high brightness.

ST org electroluminescent device emitter dibenzobenzofluorenopentaphene deriv

IT Polycyclic compounds
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(arom. hydrocarbons; org. EL devices contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)

IT Amines, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(aryl, tertiary, hole injection and transport layer; org. EL devices contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)

IT Electroluminescent devices
(org.; org. EL devices contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)

IT Aromatic hydrocarbons, uses
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polycyclic; org. EL devices contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)

IT 2085-33-8 **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole
RL: TEM (Technical or engineered material use); USES (Uses)
(electron injection and transport **layer**; org. **EL devices** contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter **layers**)

IT 1450-63-1, 1,1,4,4-Tetraphenyl-1,3-butadiene 38215-36-0, Coumarin 6 146162-54-1
RL: TEM (Technical or engineered material use); USES (Uses)
(emitter layer contg.; org. EL devices contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)

IT 390774-11-5P 390774-12-6P 390774-13-7P 390774-14-8P 390774-15-9P
390774-16-0P 390774-17-1P 390774-18-2P 390774-19-3P 390774-20-6P
390774-21-7P 390774-22-8P 390774-23-9P 390774-24-0P 390774-25-1P
390774-26-2P 390774-27-3P 390774-28-4P 390774-29-5P 390774-30-8P
390774-31-9P 390774-32-0P 390774-33-1P 390774-34-2P 390774-35-3P
390774-36-4P 390774-37-5P 390774-38-6P 390774-40-0P 390774-41-1P
390774-42-2P 390774-43-3P 390774-79-5P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(emitter layers for org. EL devices)

IT 65181-78-4 124729-98-2
RL: TEM (Technical or engineered material use); USES (Uses)
(hole injection and transport layer; org. EL devices contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)

IT 390774-39-7P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(org. EL devices contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)

IT 24601-13-6, Bis(2-methyl-8-quinolinolato)aluminum-.mu.-oxo-bis(2-methyl-8-quinolinolato)aluminum 146162-48-3, Bis(2,4-dimethyl-8-quinolinolato)aluminum-.mu.-oxo-bis(2,4-dimethyl-8-quinolinolato)aluminum

RL: TEM (Technical or engineered material use); USES (Uses)
(org. EL devices contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers)

IT 390774-44-4 390774-45-5 390774-46-6 390774-47-7 390774-48-8
390774-49-9 390774-50-2 390774-51-3 390774-52-4 390774-53-5
390774-54-6 390774-55-7 390774-56-8 390774-57-9 390774-58-0
390774-59-1 390774-60-4 390774-61-5 390774-62-6 390774-63-7
390774-64-8 390774-65-9 390774-66-0 390774-67-1 390774-68-2
390774-69-3 390774-70-6 390774-71-7 390774-72-8 390774-73-9
390774-74-0 390774-75-1 390774-76-2 390775-05-0

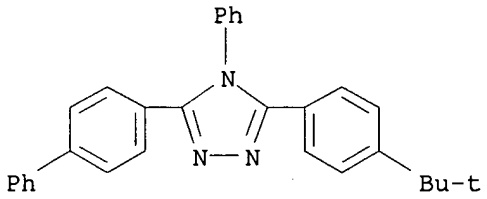
RL: RCT (Reactant); RACT (Reactant or reagent)
(org. EL devices contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter layers prepd. from)

IT **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole

RL: TEM (Technical or engineered material use); USES (Uses)
(electron injection and transport **layer**; org. **EL devices** contg. dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs. in emitter **layers**)

RN 150405-69-9 HCAPLUS

CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (9CI) (CA INDEX NAME)



L31 ANSWER 8 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:69660 HCAPLUS

DN 136:126325

TI Benzo[5,6]indeno[1,2,3-cd]indeno[1,2,3-lm]perylene derivatives and organic electroluminescent devices containing the same

IN Ishida, Tsutomu; Shimamura, Takehiko; Nakatsuka, Masakatsu

PA Mitsui Chemicals Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 66 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H05B033-14
ICS C07C013-62; C07C025-22; C07C043-21; C09K011-06

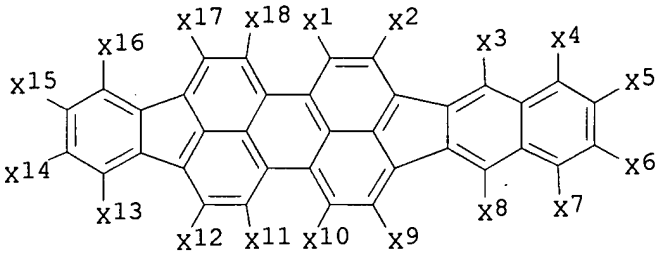
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002025776	A2	20020125	JP 2000-209224	20000711
PRAI	JP 2000-209224		20000711		

OS MARPAT 136:126325

GI



I

AB The org. EL devices have a **pair** of **electrodes** and in between, .gtoreq.1 **layers**, maybe emitter **layers**, contg. benzo[5,6]indeno[1,2,3-cd]indeno[1,2,3-lm]perylene derivs., which may be shown as I (X1-X18 = H, halogen, alkyl, alkoxy, aryl). The I-contg. layer may further contain luminescent organometal complexes and triarylamine derivs. The device may further have a hole injection and transport layer and an electron injection and transport layer between the electrodes. The device have high luminescent efficiency and high brightness.

ST org electroluminescent device emitter benzoindenoindenoperylene deriv

IT Polycyclic compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(arom. hydrocarbons; org. EL devices contg. benzo[5,6]indeno[1,2,3-cd]indeno[1,2,3-lm]perylene derivs. in emitter layers)

IT Amines, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(aryl, tertiary, emitter layer contg.; org. EL devices contg. benzo[5,6]indeno[1,2,3-cd]indeno[1,2,3-lm]perylene derivs. in emitter layers)

IT Electroluminescent devices
(org.; org. EL devices contg. benzo[5,6]indeno[1,2,3-cd]indeno[1,2,3-lm]perylene derivs. in emitter layers)

IT Aromatic hydrocarbons, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polycyclic; org. EL devices contg. benzo[5,6]indeno[1,2,3-cd]indeno[1,2,3-lm]perylene derivs. in emitter layers)

IT 2085-33-8, Aluminum tris(8-quinolinolate) 138372-67-5
RL: TEM (Technical or engineered material use); USES (Uses)
(electron injection and transport layer; org. EL devices with emitter layers contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT 1450-63-1, 1,1,4,4-Tetraphenyl-1,3-butadiene 24601-13-6, Bis(2-methyl-8-quinolinolato)aluminum-.mu.-oxo-bis(2-methyl-8-quinolinolato)aluminum 38215-36-0, Coumarin 6 146162-48-3, Bis(2,4-dimethyl-8-quinolinolato)aluminum-.mu.-oxo-bis(2,4-dimethyl-8-quinolinolato)aluminum 146162-54-1 **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole
RL: TEM (Technical or engineered material use); USES (Uses)
(emitter **layer** contg.; org. **EL devices** with emitter **layers** contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT 390763-79-8P 390763-80-1P 390763-81-2P 390763-82-3P 390763-83-4P
390763-84-5P 390763-85-6P 390763-86-7P 390763-87-8P 390763-88-9P
390763-89-0P 390763-90-3P 390763-91-4P 390763-92-5P 390763-93-6P
390763-94-7P 390763-95-8P 390763-96-9P 390763-97-0P 390763-98-1P

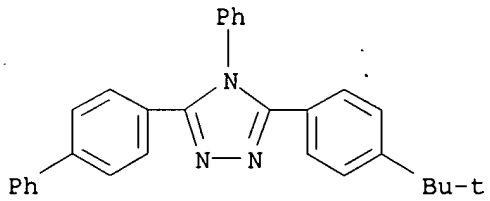
390763-99-2P 390764-00-8P 390764-01-9P 390764-02-0P 390764-03-1P
390764-04-2P 390764-05-3P 390764-06-4P 390764-07-5P 390764-08-6P
390764-09-7P 390764-10-0P 390764-11-1P 390764-12-2P 390764-13-3P
390764-14-4P 390764-15-5P 390764-16-6P 390764-17-7P 390764-18-8P
390764-19-9P 390764-20-2P 390764-21-3P 390764-22-4P 390764-23-5P
390764-24-6P 390764-25-7P 390764-26-8P 390764-27-9P 390764-29-1P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(emitter layers for org. EL devices)

IT 124729-98-2
RL: TEM (Technical or engineered material use); USES (Uses)
(hole injection and transport layer; org. EL devices with emitter layers contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs.)

IT 390764-30-4 390764-31-5 390764-32-6 390764-33-7 390764-34-8
390764-35-9 390764-36-0 390764-37-1 390764-38-2 390764-39-3
390764-40-6 390764-41-7 390764-42-8 390764-43-9 390764-44-0
390764-45-1 390764-46-2 390764-47-3 390764-48-4 390764-49-5
390764-50-8 390764-51-9 390764-52-0 390764-53-1 390764-54-2
390764-55-3 390764-56-4 390764-57-5 390764-58-6 390764-59-7
390764-60-0 390764-61-1 390764-62-2 390764-63-3 390764-64-4
390764-65-5 390764-66-6 390764-67-7 390764-68-8 390764-69-9
390764-70-2 390764-71-3 390764-72-4 390764-73-5 390764-74-6
390764-75-7 390764-76-8 390764-77-9 390764-78-0 390764-79-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(org. EL devices with emitter layers contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs. prepd. from)

IT **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole
RL: TEM (Technical or engineered material use); USES (Uses)
(emitter **layer** contg.; org. **EL devices** with emitter **layers** contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

RN 150405-69-9 HCAPLUS
CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (9CI) (CA INDEX NAME)

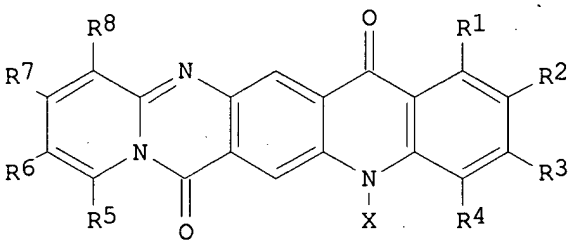


L31 ANSWER 9 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:69659 HCAPLUS
DN 136:126324
TI Organic electroluminescent devices with layers containing 5H-pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione derivatives
IN Nakatsuka, Masakatsu; Ishida, Tsutomu; Shimamura, Takehiko
PA Mitsui Chemicals Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 37 pp.
CODEN: JKXXAF
DT Patent

LA Japanese
IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28, 74
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002025775	A2	20020125	JP 2000-209223	20000711
PRAI	JP 2000-209223		20000711		

OS MARPAT 136:126324
GI



I

AB The org. EL devices have a **pair** of **electrodes** and in between, .gtoreq.1 **layers** contg. 5H-pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione derivs. I (X = H, alkyl, aryl; R1-R8 = H, halogen, alkyl, alkoxy, aryl, aryloxy, amino; R1 and R2, R2 and R3, R3 and R4, R5 and R6, R6 and R7, R7 and R8 may be linked together and form aliph., arom., or heterocyclic ring with substituted C). The I-contg. layer may be emitter layers or electron injection and transport layer and may further contain luminescent organometal complexes. The device may further have a hole injection and transport layer and an electron injection and transport layer between the electrodes. The device have high luminescent efficiency and high brightness.

ST org electroluminescent device pyridopyrimidoacridine dione deriv
IT Heterocyclic compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(arom.; org. EL device contg. 5H-pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione in emitter layers)
IT Aromatic compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(heterocyclic; org. EL device contg. 5H-pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione in emitter layers)
IT Electroluminescent devices
(org.; org. EL device contg. 5H-pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione in emitter layers)
IT 2085-33-8 **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole
RL: TEM (Technical or engineered material use); USES (Uses)
(electron injection and transport **layer**; org. **EL device** contg. 5H-pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione in emitter **layers**)
IT 1450-63-1, 1,1,4,4-Tetraphenyl-1,3-butadiene 51325-91-8, DCM 1 138372-67-5 146162-48-3, Bis(2,4-dimethyl-8-quinolinolato)aluminum-.mu.-

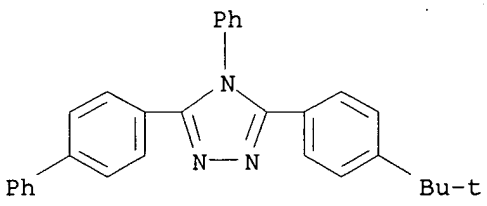
oxo-bis(2,4-dimethyl-8-quinolinolato)aluminum
RL: TEM (Technical or engineered material use); USES (Uses)
(emitter layer contg.; org. EL device contg. 5H-pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione in emitter layers)

IT **70243-37-7**, 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione
73909-89-4 390808-71-6 390808-72-7
390808-73-8 390808-74-9 390808-75-0
390808-76-1 390808-77-2 390808-78-3
390808-79-4 390808-80-7 390808-81-8
390808-82-9 390808-83-0 390808-84-1
390808-85-2 390808-86-3 390808-87-4
390808-88-5 390808-89-6 390808-90-9
390808-91-0 390808-92-1 390808-93-2
RL: TEM (Technical or engineered material use); USES (Uses)
(emitter **layers** for org. **EL devices**)

IT 65181-78-4 123847-85-8, 4,4'-Bis[N-phenyl-N-(1''-naphthyl)amino]biphenyl
124729-98-2
RL: TEM (Technical or engineered material use); USES (Uses)
(hole injection and transport layer; org. EL device contg. 5H-pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione in emitter layers)

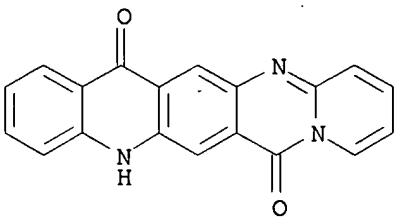
IT **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole
RL: TEM (Technical or engineered material use); USES (Uses)
(electron injection and transport **layer**; org. **EL device** contg. 5H-pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione in emitter **layers**)

RN 150405-69-9 HCAPLUS
CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (9CI) (CA INDEX NAME)

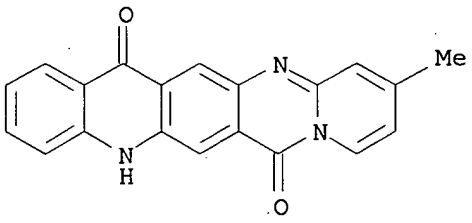


IT **70243-37-7**, 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione
73909-89-4 390808-71-6 390808-72-7
390808-73-8 390808-74-9 390808-75-0
390808-76-1 390808-77-2 390808-78-3
390808-79-4 390808-80-7 390808-81-8
390808-82-9 390808-83-0 390808-84-1
390808-85-2 390808-86-3 390808-87-4
390808-88-5 390808-89-6 390808-90-9
390808-91-0 390808-92-1 390808-93-2
RL: TEM (Technical or engineered material use); USES (Uses)
(emitter **layers** for org. **EL devices**)

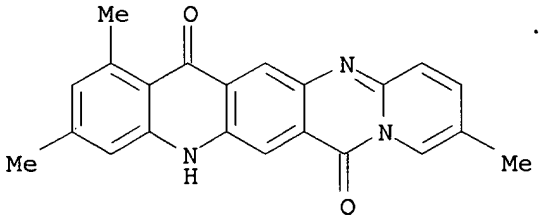
RN 70243-37-7 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione (9CI) (CA INDEX NAME)



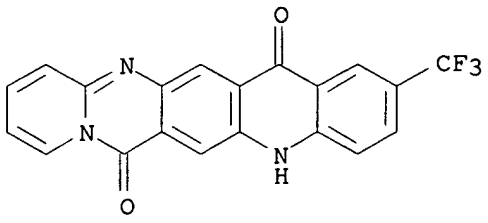
RN 73909-89-4 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 11-methyl- (9CI) (CA INDEX NAME)



RN 390808-71-6 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 1,3,10-trimethyl- (9CI) (CA INDEX NAME)

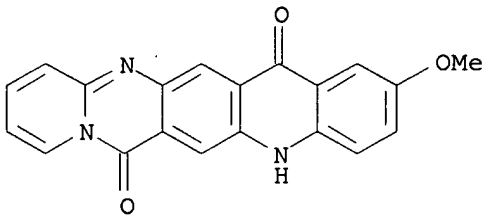


RN 390808-72-7 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 2-(trifluoromethyl)- (9CI) (CA INDEX NAME)

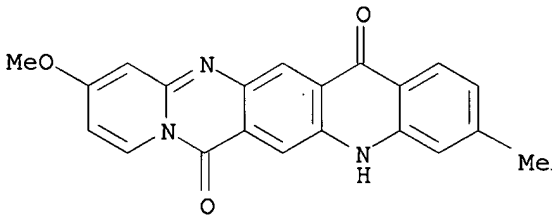


RN 390808-73-8 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 2-methoxy- (9CI)

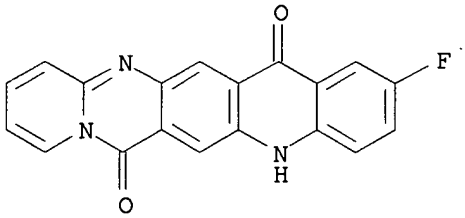
(CA INDEX NAME)



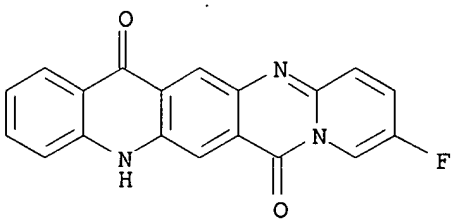
RN 390808-74-9 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 11-methoxy-3-methyl- (9CI) (CA INDEX NAME)



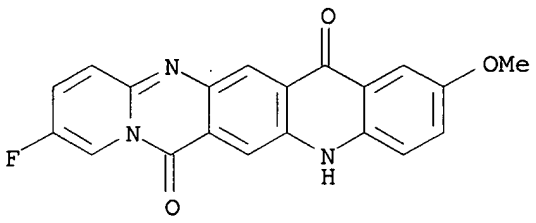
RN 390808-75-0 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 2-fluoro- (9CI) (CA INDEX NAME)



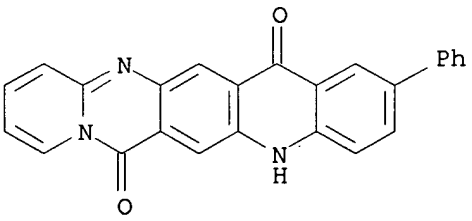
RN 390808-76-1 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 10-fluoro- (9CI) (CA INDEX NAME)



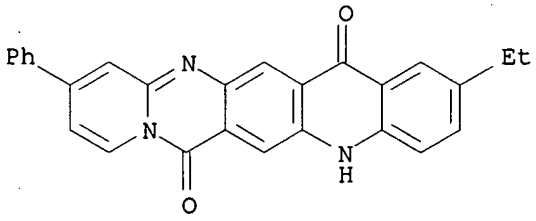
RN 390808-77-2 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 10-fluoro-2-methoxy- (9CI) (CA INDEX NAME)



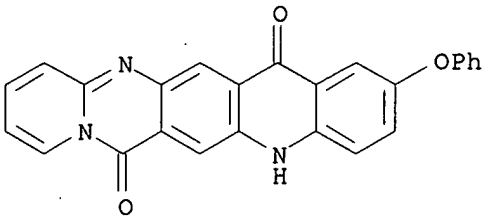
RN 390808-78-3 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 2-phenyl- (9CI) (CA INDEX NAME)



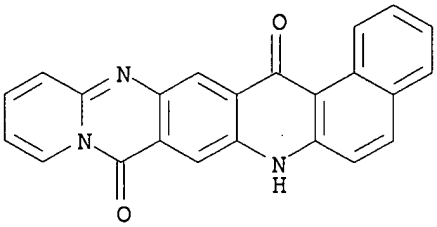
RN 390808-79-4 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 2-ethyl-11-phenyl- (9CI) (CA INDEX NAME)



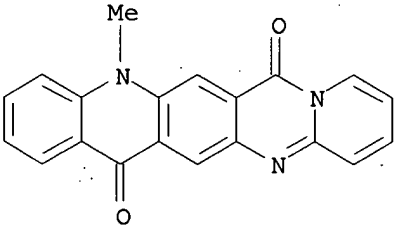
RN 390808-80-7 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 2-phenoxy- (9CI) (CA INDEX NAME)



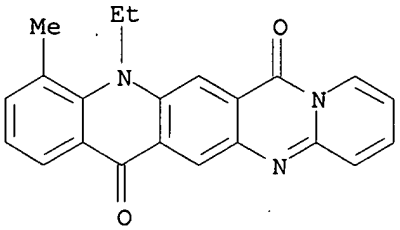
RN 390808-81-8 HCAPLUS
CN 7H-Benzo[a]pyrido[1',2':1,2]pyrimido[5,4-i]acridine-9,17-dione (9CI) (CA INDEX NAME)



RN 390808-82-9 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 5-methyl- (9CI) (CA INDEX NAME)

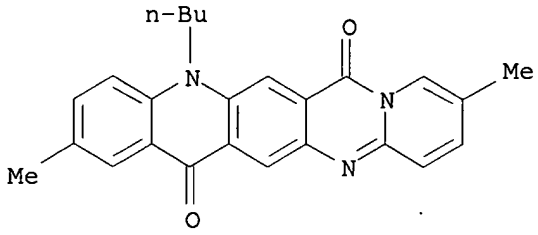


RN 390808-83-0 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 5-ethyl-4-methyl- (9CI) (CA INDEX NAME)

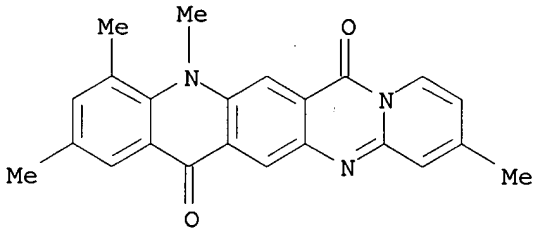


RN 390808-84-1 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione,

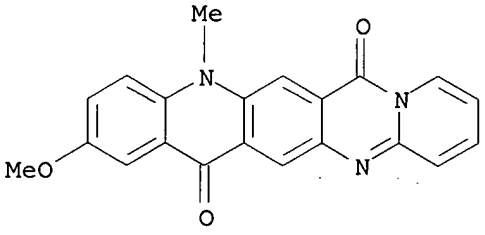
5-butyl-2,10-dimethyl- (9CI) (CA INDEX NAME)



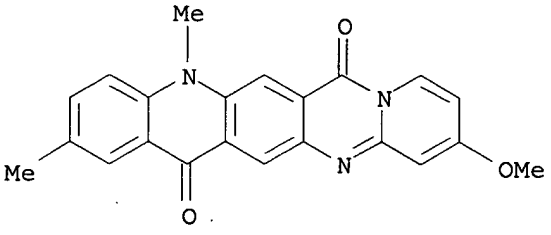
RN 390808-85-2 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 2,4,5,11-tetramethyl- (9CI) (CA INDEX NAME)



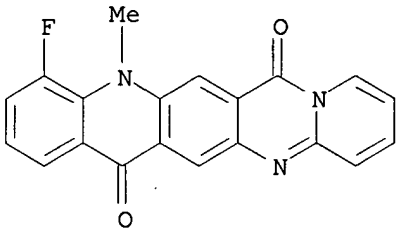
RN 390808-86-3 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 2-methoxy-5-methyl- (9CI) (CA INDEX NAME)



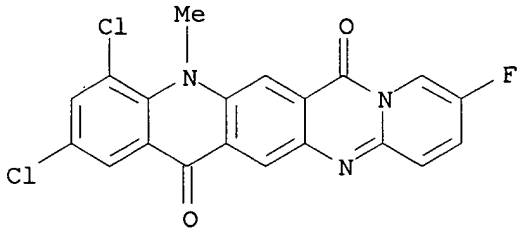
RN 390808-87-4 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 11-methoxy-2,5-dimethyl- (9CI) (CA INDEX NAME)



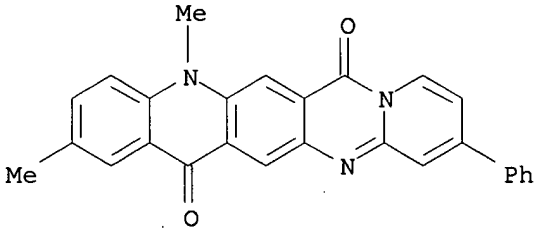
RN 390808-88-5 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 4-fluoro-5-methyl- (9CI) (CA INDEX NAME)



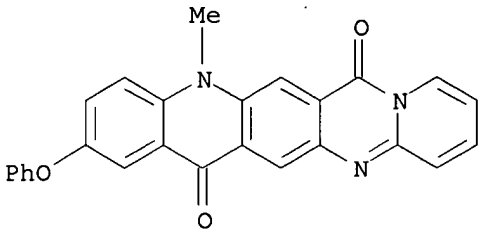
RN 390808-89-6 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 2,4-dichloro-10-fluoro-5-methyl- (9CI) (CA INDEX NAME)



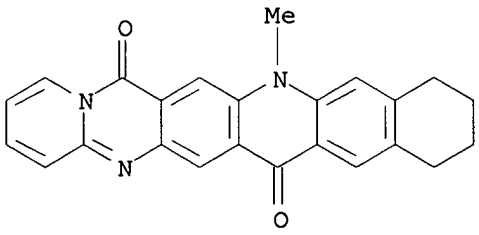
RN 390808-90-9 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 2,5-dimethyl-11-phenyl- (9CI) (CA INDEX NAME)



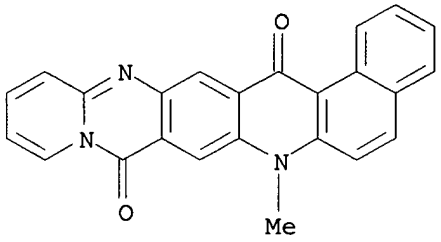
RN 390808-91-0 HCAPLUS
CN 5H-Pyrido[1',2':1,2]pyrimido[4,5-b]acridine-7,15-dione, 5-methyl-2-phenoxy- (9CI) (CA INDEX NAME)



RN 390808-92-1 HCAPLUS
CN 6H-Benzo[b]pyrido[1',2':1,2]pyrimido[5,4-i]acridine-6,15(8H)-dione, 10,11,12,13-tetrahydro-8-methyl- (9CI) (CA INDEX NAME)



RN 390808-93-2 HCAPLUS
CN 7H-Benzo[a]pyrido[1',2':1,2]pyrimido[5,4-i]acridine-9,17-dione, 7-methyl- (9CI) (CA INDEX NAME)



L31 ANSWER 10 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:69658 HCAPLUS
DN 136:126323
TI 3-(Benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivatives and organic electroluminescent devices containing the same
IN Ishida, Tsutomu; Shimamura, Takehiko; Nakatsuka, Masakatsu
PA Mitsui Chemicals Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 74 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H05B033-14
ICS C07C013-66; C07C025-22; C07C043-21; C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related

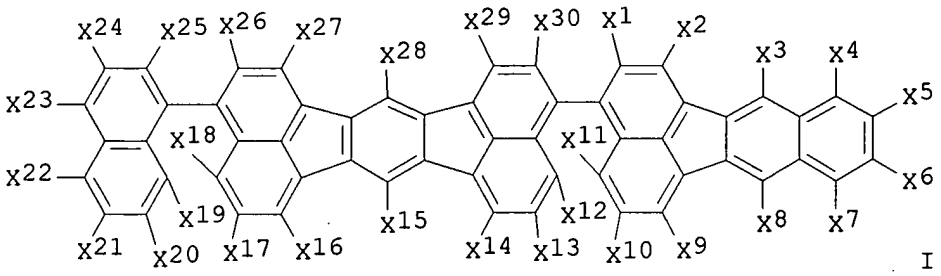
Properties)
Section cross-reference(s): 25, 74

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002025774	A2	20020125	JP 2000-206284	20000707
PRAI JP 2000-206284		20000707		

OS MARPAT 136:126323

GI



I

AB The org. EL devices have a **pair** of **electrodes** and in between, .gtoreq.1 **layers**, maybe emitter **layers**, contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs., which may be shown as I (X1-X30 = H, halogen, alkyl, alkoxy, aryl). The I-contg. layer may further contain luminescent organometal complexes and triarylamine derivs. The device may further have a hole injection and transport layer and an electron injection and transport layer between the electrodes. The device have high luminescent efficiency and high brightness.

ST org electroluminescent device emitter benzofluoranthene naphthyl acenaphthofluoranthene deriv

IT Polycyclic compounds
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(arom. hydrocarbons; org. EL device contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs. in emitter layers)

IT Amines, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(aryl, tertiary, emitter layer contg.; org. EL device contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs. in emitter layers)

IT Electroluminescent devices
(org.; org. EL device contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs. in emitter layers)

IT Aromatic hydrocarbons, uses
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polycyclic; org. EL device contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs. in emitter layers)

IT 2085-33-8, Alq3 138372-67-5
RL: TEM (Technical or engineered material use); USES (Uses)
(electron injection and transport layer; org. EL device contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-

k]fluoranthene derivs. in emitter layers)

IT 1450-63-1, 1,1,4,4-Tetraphenyl-1,3-butadiene 24601-13-6, Bis(2-methyl-8-quinolinolato)aluminum-.mu.-oxo-bis(2-methyl-8-quinolinolato)aluminum 38215-36-0, Coumarin 6 146162-48-3, Bis(2,4-dimethyl-8-quinolinolato)aluminum-.mu.-oxo-bis(2,4-dimethyl-8-quinolinolato)aluminum 146162-54-1 **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole
RL: TEM (Technical or engineered material use); USES (Uses)
(emitter **layer** contg.; org. **EL device** contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs. in emitter **layers**)

IT 390429-96-6P 390429-98-8P 390430-00-9P 390430-02-1P 390430-04-3P
390430-06-5P 390430-08-7P 390430-09-8P 390430-11-2P 390430-13-4P
390430-15-6P 390430-17-8P 390430-19-0P 390430-21-4P 390430-22-5P
390430-24-7P 390430-26-9P 390430-27-0P 390430-29-2P 390430-31-6P
390430-33-8P 390430-35-0P 390430-37-2P 390430-39-4P 390430-41-8P
390430-43-0P 390430-45-2P 390430-47-4P 390430-49-6P 390430-51-0P
390430-53-2P 390430-55-4P 390430-57-6P 390430-59-8P 390430-61-2P
390430-63-4P 390430-65-6P 390430-67-8P 390430-69-0P 390430-71-4P
390430-73-6P 390430-75-8P 390430-77-0P 390430-79-2P 390430-81-6P
390430-82-7P 390430-83-8P 390430-85-0P 390430-86-1P 390430-88-3P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(emitter layers for org. EL devices)

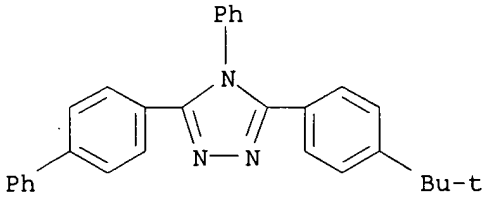
IT 65181-78-4, 4,4'-Bis[N-phenyl-N-(3''-methylphenyl)amino]biphenyl
RL: TEM (Technical or engineered material use); USES (Uses)
(hole injection and transport layer; org. EL device contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs. in emitter layers)

IT 390430-89-4P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(org. EL devices contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs. in emitter layers prepd. from)

IT 276249-57-1 276249-59-3 278599-87-4 278599-88-5 278599-89-6
359434-86-9 359434-87-0 359434-89-2 359434-92-7 359434-93-8
359434-95-0 359434-98-3 359435-00-0 359435-01-1 359435-03-3
359435-05-5 359435-07-7 359435-09-9 359435-10-2 359435-12-4
359435-15-7 359435-16-8 359435-17-9 373635-01-9 373635-04-2
373635-06-4 373635-13-3 373635-22-4 373635-24-6 373635-29-1
373635-31-5 373635-33-7 373635-37-1 373635-41-7 373635-45-1
390430-91-8 390431-05-7 390431-07-9 390431-09-1 390431-22-8
390431-25-1 390431-28-4 390431-30-8 390431-32-0 390431-34-2
390431-35-3 390431-36-4 390431-37-5 390431-39-7 390431-41-1
390431-43-3 390431-45-5 390431-47-7 390431-49-9 390431-52-4
390431-55-7 390431-59-1 390431-61-5 390431-63-7 390431-65-9
390431-66-0 390431-68-2 390431-70-6 390431-72-8 390431-74-0
390431-76-2 390431-78-4 390431-80-8 390431-81-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(org. EL devices contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs. in emitter layers prepd. from)

IT 13922-41-3, 1-Naphthylboric acid 370098-12-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material for prepn. of 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs. for emitter layers of org. EL devices)

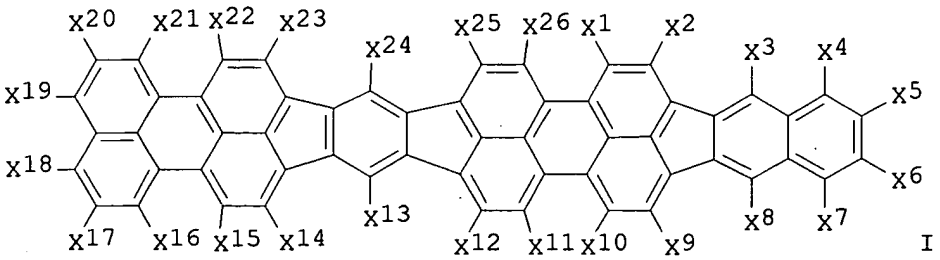
IT **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole
RL: TEM (Technical or engineered material use); USES (Uses)
(emitter **layer** contg.; org. **EL device** contg. 3-(benzo[k]fluoranthen-3'-yl)-11-(1'-naphthyl)acenaphtho[1,2-k]fluoranthene derivs. in emitter **layers**)
RN 150405-69-9 HCAPLUS
CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (9CI) (CA INDEX NAME)



L31 ANSWER 11 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:69657 HCAPLUS
DN 136:126322
TI Benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivatives and organic electroluminescent devices containing the same
IN Ishida, Tsutomu; Shimamura, Takehiko; Nakatsuka, Masakatsu
PA Mitsui Chemicals Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 77 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H05B033-14
ICS C07C015-20; C07C025-22; C07C043-21; C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 74
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002025773	A2	20020125	JP 2000-206282	20000707
PRAI	JP 2000-206282		20000707		

OS MARPAT 136:126322
GI



I

AB The org. EL devices have a **pair** of **electrodes** and in between, .gtoreq.1 **layers**, maybe emitter **layers**, contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs., which may be shown as I (X1-X24 = H, halogen, alkyl, alkoxy, aryl). The I-contg. layer may further contain luminescent organometal complexes and triarylamine derivs. The device may further have a hole injection and transport layer and an electron injection and transport layer between the electrodes. The device have high luminescent efficiency and high brightness.

ST org electroluminescent device emitter benzoindenoindacenodiperylene deriv

IT Polycyclic compounds
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(arom. hydrocarbons; org. EL devices with emitter layers contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT Amines, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(aryl, tertiary, emitter layer contg.; org. EL devices with emitter layers contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT Electroluminescent devices
(org.; org. EL devices contg. indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs. in emitter layers)

IT Aromatic hydrocarbons, uses
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polycyclic; org. EL devices with emitter layers contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT 2085-33-8 138372-67-5
RL: TEM (Technical or engineered material use); USES (Uses)
(electron injection and transport layer; org. EL devices with emitter layers contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT 1450-63-1, 1,1,4,4-Tetraphenyl-1,3-butadiene 24601-13-6, Bis(2-methyl-8-quinolinolato)aluminum-.mu.-oxo-bis(2-methyl-8-quinolinolato)aluminum 38215-36-0, Coumarin 6 146162-48-3, Bis(2,4-dimethyl-8-quinolinolato)aluminum-.mu.-oxo-bis(2,4-dimethyl-8-quinolinolato)aluminum 146162-54-1 **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole
RL: TEM (Technical or engineered material use); USES (Uses)
(emitter **layer** contg.; org. **EL devices** with emitter **layers** contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

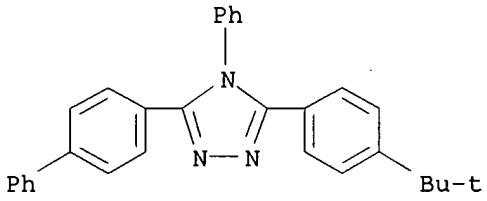
IT 390801-10-2P 390801-11-3P 390801-12-4P 390801-13-5P 390801-14-6P
390801-15-7P 390801-16-8P 390801-17-9P 390801-18-0P 390801-19-1P
390801-20-4P 390801-21-5P 390801-22-6P 390801-23-7P 390801-24-8P
390801-25-9P 390801-26-0P 390801-27-1P 390801-28-2P 390801-29-3P
390801-30-6P 390801-31-7P 390801-32-8P 390801-33-9P 390801-34-0P
390801-36-2P 390801-38-4P 390801-39-5P 390801-40-8P 390801-41-9P
390801-42-0P 390801-43-1P 390801-44-2P 390801-45-3P 390801-46-4P
390801-47-5P 390801-48-6P 390801-49-7P 390801-50-0P 390801-51-1P
390801-52-2P 390801-53-3P 390801-54-4P 390801-55-5P 390801-56-6P
390801-57-7P 390801-59-9P 390801-61-3P 390801-63-5P 390801-65-7P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(emitter layers for org. EL devices)

IT 65181-78-4 124729-98-2
RL: TEM (Technical or engineered material use); USES (Uses)
(hole injection and transport layer; org. EL devices with emitter layers contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT 390429-96-6 390429-98-8 390430-00-9 390430-02-1 390430-04-3
390430-06-5 390430-08-7 390430-09-8 390430-11-2 390430-13-4
390430-15-6 390430-17-8 390430-19-0 390430-21-4 390430-22-5
390430-24-7 390430-26-9 390430-27-0 390430-29-2 390430-31-6
390430-33-8 390430-35-0 390430-37-2 390430-39-4 390430-41-8
390430-43-0 390430-45-2 390430-47-4 390430-49-6 390430-51-0
390430-53-2 390430-55-4 390430-57-6 390430-59-8 390430-61-2
390430-63-4 390430-65-6 390430-67-8 390430-69-0 390430-71-4
390430-73-6 390430-75-8 390430-77-0 390430-79-2 390430-81-6
390430-82-7 390430-83-8 390430-85-0 390430-86-1 390430-88-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(org. EL devices with emitter layers contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs. prepd. from)

IT **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole
RL: TEM (Technical or engineered material use); USES (Uses)
(emitter **layer** contg.; org. **EL devices** with emitter **layers** contg. benzo[5,6]indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

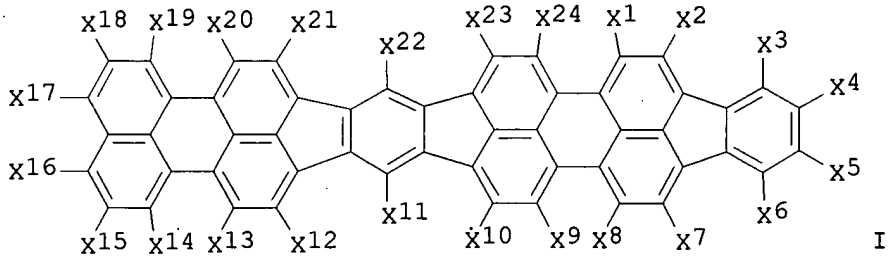
RN 150405-69-9 HCAPLUS
CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (9CI) (CA INDEX NAME)



L31 ANSWER 12 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:69656 HCAPLUS
DN 136:126321
TI Indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivatives and organic electroluminescent devices containing the same
IN Ishida, Tsutomu; Shimamura, Takehiko; Nakatsuka, Masakatsu
PA Mitsui Chemicals Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 63 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H05B033-14
ICS C07C013-62; C07C025-22; C07C043-20; C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 74
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI JP 2002025772 A2 20020125 JP 2000-206281 20000707
PRAI JP 2000-206281 20000707
OS MARPAT 136:126321
GI



I

AB The org. EL devices have a **pair** of **electrodes** and in between, .gtoreq.1 **layers**, maybe emitter **layers**, contg. indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs., which may be shown as I (X1-X24 = H, halogen, alkyl, alkoxy, aryl). The I-contg. layer may further contain luminescent organometal complexes and triarylamine derivs. The device may further have a hole injection and transport layer and an electron injection and transport layer between the electrodes. The device have high luminescent efficiency and high brightness.

ST org electroluminescent device emitter indenoindacenodiperylene deriv

IT Polycyclic compounds
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(arom. hydrocarbons; org. EL devices with emitter layers contg. indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT Amines, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(aryl, tertiary, emitter layer contg.; org. EL devices with emitter layers contg. indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT Electroluminescent devices
(org.; org. EL devices contg. indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs. in emitter layers)

IT Aromatic hydrocarbons, uses
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polycyclic; org. EL devices with emitter layers contg. indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT 2085-33-8 138372-67-5 **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole
RL: TEM (Technical or engineered material use); USES (Uses)
(electron injection and transport **layer**; org. **EL devices** with emitter **layers** contg. indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT 1450-63-1, 1,1,4,4-Tetraphenyl-1,3-butadiene 24601-13-6, Bis(2-methyl-8-quinolinolato)aluminum-.mu.-oxo-bis(2-methyl-8-quinolinolato)aluminum 38215-36-0, Coumarin 6 146162-48-3, Bis(2,4-dimethyl-8-quinolinolato)aluminum-.mu.-oxo-bis(2,4-dimethyl-8-quinolinolato)aluminum 146162-54-1
RL: TEM (Technical or engineered material use); USES (Uses)

(emitter layer contg.; org. EL devices with emitter layers contg. indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

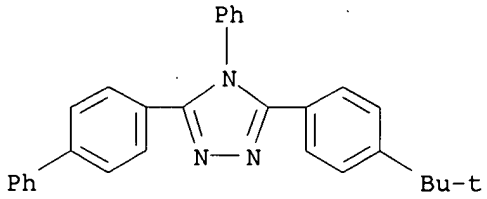
IT 390766-94-6P 390766-95-7P 390766-96-8P 390766-97-9P 390766-98-0P
390766-99-1P 390767-00-7P 390767-01-8P 390767-02-9P 390767-03-0P
390767-04-1P 390767-05-2P 390767-06-3P 390767-07-4P 390767-08-5P
390767-09-6P 390767-10-9P 390767-12-1P 390767-14-3P 390767-16-5P
390767-18-7P 390767-20-1P 390767-22-3P 390767-24-5P 390767-26-7P
390767-28-9P 390767-30-3P 390767-32-5P 390767-34-7P 390767-36-9P
390767-38-1P 390767-40-5P 390767-42-7P 390767-44-9P 390767-46-1P
390767-48-3P 390767-50-7P 390767-52-9P 390767-54-1P 390767-56-3P
390767-58-5P 390767-60-9P 390767-62-1P 390767-65-4P 390767-67-6P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(emitter layers for org. EL devices)

IT 65181-78-4 124729-98-2
RL: TEM (Technical or engineered material use); USES (Uses)
(hole injection and transport layer; org. EL devices with emitter layers contg. indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

IT 390767-71-2 390767-73-4 390767-75-6 390767-76-7 390767-78-9
390767-80-3 390767-82-5 390767-84-7 390767-86-9 390767-88-1
390767-90-5 390767-92-7 390767-94-9 390767-96-1 390767-98-3
390768-03-3 390768-05-5 390768-07-7 390768-09-9 390768-10-2
390768-11-3 390768-13-5 390768-15-7 390768-18-0 390768-19-1
390768-21-5 390768-23-7 390768-25-9 390768-27-1 390768-29-3
390768-31-7 390768-33-9 390768-35-1 390768-37-3 390768-39-5
390768-41-9 390768-43-1 390768-45-3 390768-47-5 390768-49-7
390768-51-1 390768-53-3 390768-55-5 390768-57-7 390768-58-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(org. EL devices with emitter layers contg. indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs. prepd. from)

IT **150405-69-9**, 3-(4'-tert-Butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole
RL: TEM (Technical or engineered material use); USES (Uses)
(electron injection and transport **layer**; org. **EL devices** with emitter **layers** contg. indeno[1,2,3-lm]-s-indaceno[1,2,3-cd:5,6,7-c',d']diperylene derivs.)

RN 150405-69-9 HCAPLUS
CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (9CI) (CA INDEX NAME)



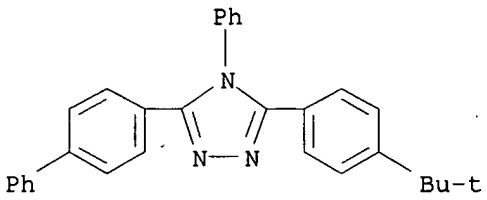
L31 ANSWER 13 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:840168 HCAPLUS
DN 134:23350
TI Electroluminescent device having a very thin emission layer
IN Fukuyama, Masao; Suzuki, Mutsumi; Kudo, Yuji; Hori, Yoshikazu
PA Matsushita Electric Industrial Co., Ltd., Japan

SO Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM H01L051-20
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1056141	A2	20001129	EP 2000-304450	20000525
EP 1056141	A3	20030423		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000340361	A2	20001208	JP 1999-144497	19990525
PRAI JP 1999-144497	A	19990525		

AB Org. electroluminescent devices comprising a **pair** of **electrodes** sandwiching a **layered** structure including a charge transport **layer** capable of transporting electrons or holes and an emission **layer** comprising an org. material capable of emitting light on application of a voltage are described in which the org. material undergoes concn. quenching and the emission **layer** has a thickness of .ltoreq.4 nm and/or has a fluorescent lifetime shorter than that of an org. material present in the charge transport **layer**.

ST org electroluminescent device thin emission layer
IT Electroluminescent devices
(org.; electroluminescent devices having very thin emission layers)
IT 517-51-1, Rubrene 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 7789-24-4, Lithium fluoride, uses 19205-19-7, N,N'-Dimethylquinacridone 38215-36-0, Coumarin 6 51325-91-8, DCM **150405-69-9** 167218-46-4
RL: DEV (Device component use); USES (Uses)
(**electroluminescent devices** having very thin emission **layers**)
IT **150405-69-9**
RL: DEV (Device component use); USES (Uses)
(**electroluminescent devices** having very thin emission **layers**)
RN 150405-69-9 HCAPLUS
CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (9CI) (CA INDEX NAME)



L31 ANSWER 14 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:674093 HCAPLUS
DN 133:259455

TI Oxadiazole derivative, manufacture of the derivative, and organic electroluminescent device using the derivative

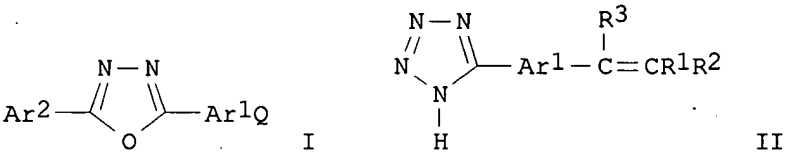
IN Fujita, Yoshimasa; Kawase, Tokutaka
PA Sharp Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07D271-10
ICS C09K011-06; G03G005-06; H05B033-14; H05B033-22
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 28
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000264880	A2	20000926	JP 1999-70328	19990316
PRAI JP 1999-70328		19990316		

OS MARPAT 133:259455

GI



I II

AB The oxadiazole deriv. is that represented as I [Q = CR3:CR1R2; Ar1 = (substituted) arylene, (substituted) heterocycle; Ar2 = (substituted) alkyl, (substituted) aryl, (substituted) heterocycle; R1-R3 = H, halogen, (substituted) alkyl, (substituted) aryl, (substituted) heterocycle; R1 and R2 may form (un)satd. (substituted) 5- or 6-membered ring]. The deriv. is manufd. by condensing I [Q = CR3(O); Ar1, Ar2, and R3 are the same as above] and (RO)2P(O)CHR1R2 (R = C1-4 alkyl, Ph; R1, R2 are the same as above), by condensing I [Q = CHR3P(O)(OR)2; Ar1, Ar2, R3 are the same as above] and R1R2C(O) (R1, R2 are the same as above), or by condensing Ar2C(O)Y (Y = halogen; Ar2 is the same as above) and tetrazole II (Ar1, R1-R3 are the same as above). The electroluminescent device involves .gtoreq.1 (laminated) **layer**(s) sandwiched between a **pair** of **electrodes**, wherein .gtoreq.1 of the **layers**, preferably a light-emitting **layer** and an electron-transporting **layer**, contain the deriv. The display shows improved brightness and stable electron-transporting property.

ST oxadiazole deriv electroluminescent device; light emitting layer oxadiazole deriv display; electron transporting layer oxadiazole deriv display

IT Electroluminescent devices
(oxadiazole deriv. for light-emitting layer or electron-transporting layer in electroluminescent display device)

IT 98-88-4, Benzoyl chloride 100-52-7, Benzaldehyde, reactions 105-07-7, p-Cyanobenzaldehyde 119-61-9, Benzophenone, reactions 879-18-5, 1-Naphthoyl chloride 3619-22-5, p-Toluic hydrazide 14002-51-8, 4-Biphenylcarbonyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(for oxadiazole deriv. for light-emitting layer or electron-

transporting layer in electroluminescent display device)

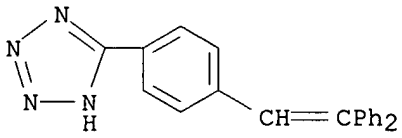
IT 1874-47-1P 14293-57-3P 16112-27-9P 19338-21-7P 21464-12-0P 21464-13-1P 27329-60-8P 65145-97-3P 100989-01-3P 296241-44-6P 296241-45-7P **296241-46-8P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; for oxadiazole deriv. for light-emitting **layer** or electron-transporting **layer** in **electroluminescent** display **device**)

IT 16157-16-7P 296241-41-3P 296241-42-4P 296241-43-5P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(oxadiazole deriv. for light-emitting layer or electron-transporting layer in electroluminescent display device)

IT **296241-46-8P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; for oxadiazole deriv. for light-emitting **layer** or electron-transporting **layer** in **electroluminescent** display **device**)

RN 296241-46-8 HCAPLUS

CN 1H-Tetrazole, 5-[4-(2,2-diphenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



L31 ANSWER 15 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:363829 HCAPLUS

DN 133:24764

TI Organic electroluminescent display devices with high luminance and efficient light emission

IN Onikubo, Shunichi; Tamano, Michiko

PA Toyo Ink Mfg. Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H05B033-12
ICS G09F009-30; H05B033-14; H05B033-22

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000150152	A2	20000530	JP 1998-324629	19981116
PRAI JP 1998-324629		19981116		

AB The device comprises a multicolored light-emitting **layer** and either or both of hole- and electron-injection **layer**(s) sandwiched in between a **pair** of **electrodes**. The light-emitting layer comprises multiple light-emitting regions having different colors and the hole- or the electro-injection layer is formed entirely on the light-emitting layer. Preferable compds. for each of the

layers are given. Devices showing const. emission of each color are obtained.

ST electroluminescent display multicolored light emitting layer; hole injection layer electroluminescent display device; electron injection layer electroluminescent display device

IT Electroluminescent devices
(electroluminescent display devices with high luminance and uniform emission of each colors)

IT 198-55-0, Perylene 4061-32-9 146162-54-1 158604-97-8 194296-06-5 213968-34-4 244280-90-8 271777-31-2 271777-32-3 271777-33-4
RL: DEV (Device component use); USES (Uses)
(blue light-emitting; electroluminescent display devices with high luminance and uniform emission of each colors)

IT 58280-31-2
RL: DEV (Device component use); USES (Uses)
(electron-injection layer and blue light-emitting layer; electroluminescent display devices with high luminance and uniform emission of each colors)

IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum
RL: DEV (Device component use); USES (Uses)
(electron-injection layer and green light-emitting layer; electroluminescent display devices with high luminance and uniform emission of each colors)

IT 146162-49-4 **150405-69-9** 188049-36-7 188049-37-8 188049-39-0 188049-41-4 213620-77-0 221554-51-4 272116-82-2 **272116-88-8** 272122-21-1
RL: DEV (Device component use); USES (Uses)
(electron-injection **layer; electroluminescent** display **devices** with high luminance and uniform emission of each colors)

IT 19205-19-7, N,N'-Dimethylquinacridone 38215-36-0, Coumarin 6 113933-87-2 177799-15-4 177799-16-5 189263-86-3 219596-73-3 220720-18-3
RL: DEV (Device component use); USES (Uses)
(green light-emitting; electroluminescent display devices with high luminance and uniform emission of each colors)

IT **147-14-8**, Copper phthalocyanine 574-93-6, Phthalocyanine 808-57-1, 2,3,6,7,10,11-Hexamethoxytriphenylene 32829-11-1 58473-78-2, 1,1-Bis[4-(di-p-tolylamino)phenyl]cyclohexane 65181-78-4 76185-65-4 123847-85-8 124729-98-2 151026-65-2 166444-98-0 208939-03-1 244281-07-0 272117-02-9 272117-03-0
RL: DEV (Device component use); USES (Uses)
(hole-injection **layer; electroluminescent** display **devices** with high luminance and uniform emission of each colors)

IT 517-51-1, Rubrene 51325-91-8 220071-88-5 227009-37-2
RL: DEV (Device component use); USES (Uses)
(orange light-emitting; electroluminescent display devices with high luminance and uniform emission of each colors)

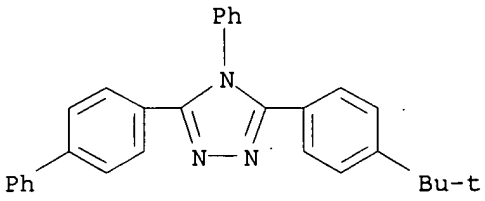
IT 7385-67-3, Nile red 219638-70-7 252755-86-5 252755-96-7 271777-57-2 271777-58-3
RL: DEV (Device component use); USES (Uses)
(red light-emitting; electroluminescent display devices with high luminance and uniform emission of each colors)

IT **150405-69-9 272116-88-8**
RL: DEV (Device component use); USES (Uses)
(electron-injection **layer; electroluminescent** display **devices** with high luminance and uniform emission of

each colors)

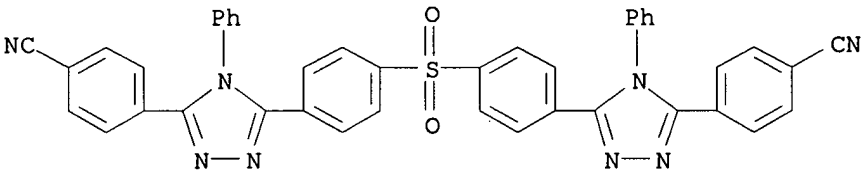
RN 150405-69-9 HCAPLUS

CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (9CI) (CA INDEX NAME)



RN 272116-88-8 HCAPLUS

CN Benzonitrile, 4,4'-[sulfonylbis[4,1-phenylene(4-phenyl-4H-1,2,4-triazole-3,5-diyl)]]bis- (9CI) (CA INDEX NAME)



IT **147-14-8**, Copper phthalocyanine

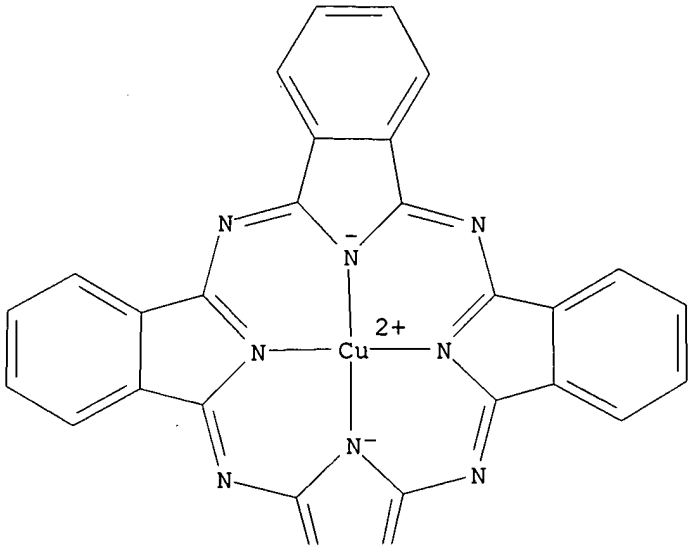
RL: DEV (Device component use); USES (Uses)

(hole-injection **layer; electroluminescent** display **devices** with high luminance and uniform emission of each colors)

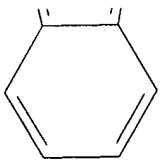
RN 147-14-8 HCAPLUS

CN Copper, [29H,31H-phthalocyaninato(2-)-.kappa.N29,.kappa.N30,.kappa.N31,.kappa.N32]-, (SP-4-1)- (9CI) (CA INDEX NAME)

PAGE 1-A



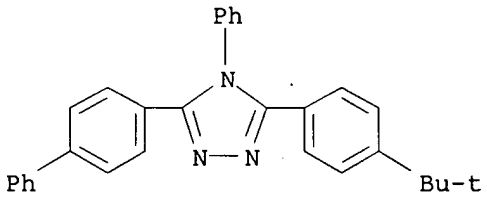
PAGE 2-A



L31 ANSWER 16 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:362827 HCAPLUS
DN 133:24762
TI Organic electroluminescent element
IN Kwon, Soon Ki; Kim, Yoon Hee; Kim, Young In; Yoo, Han Sung; Cho, Sung Hyun
PA Samsung SDI Co., Ltd., S. Korea
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H05B033-22
ICS C09K011-06; H05B033-14
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI JP 2000150165 A2 20000530 JP 1999-235659 19990823
KR 2000032067 A 20000605 KR 1998-48406 19981112
US 6344285 B1 20020205 US 1999-340055 19990628
PRAI KR 1998-48406 A 19981112
AB In the element having an electron-transporting **layer** sandwiched between a **pair** of **electrodes**, the **layer** contains 50-99.9 alc.-sol. polymer and 0.1-50 wt.% electron-transporting material. The electron-transporting layer is manufd. easily by spin-coating without deteriorating a luminescent layer.
ST electroluminescent device electron transporting layer; alc soluble polymer electron transporting layer; spin coating electron transporting layer electroluminescent
IT Electroluminescent devices
(electroluminescent devices having electron-transporting layer contg. alc.-sol. polymer)
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(electroluminescent devices having electron-transporting layer contg. alc.-sol. polymer)
IT 2085-33-8 7791-03-9, Lithium perchlorate 9003-39-8, Polyvinylpyrrolidone 9003-47-8, Poly(vinylpyridine) 14283-07-9, Lithium tetrafluoroborate 15082-28-7 21324-40-3, Lithium hexafluorophosphate 25322-68-3, Poly(ethylene oxide) 33454-82-9, Lithium trifluoromethanesulfonate 90076-65-6 148896-39-3 **150405-69-9** 271789-34-5
RL: DEV (Device component use); USES (Uses)
(**electroluminescent devices** having electron-transporting **layer** contg. alc.-sol. polymer)
IT **150405-69-9**
RL: DEV (Device component use); USES (Uses)
(**electroluminescent devices** having electron-transporting **layer** contg. alc.-sol. polymer)
RN 150405-69-9 HCAPLUS
CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (9CI) (CA INDEX NAME)

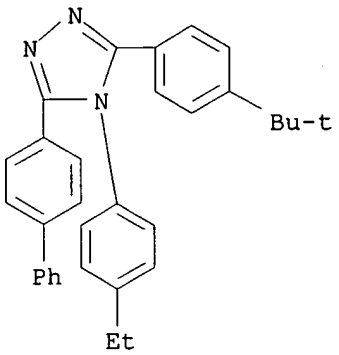


L31 ANSWER 17 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1996:400516 HCAPLUS
DN 125:71369
TI Organic electroluminescent device and its manufacture
IN Kido, Junji; Fukuoka, Naohiko
PA Kemipuro Kasei Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H05B033-14

ICS C09K011-06; G09F009-30; H05B033-10; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 08078163	A2	19960322	JP 1994-239348	19940907
PRAI JP 1994-239348		19940907		

AB The org. electroluminescent device, comprising a **pair** of **electrodes** retaining an electron transporting-emitting **layer** (A) and a hole transporting-emitting **layer** (B) of different light colors, via a carrier-recombining region-controlling **layer** (C), provides an emission spectra contg. a visible blue-, green-, and red regions, the combined color of the emitting light from A and that from B being white.
ST org electroluminescent device luminance; carrier recombination triazole electroluminescent device; perylene electron transporting electroluminescent device; aluminum complex electron transporting layer
IT Electroluminescent devices
Sputtering
Vapor deposition processes
(org. electroluminescent device with high luminance)
IT **163226-12-8**
RL: DEV (Device component use); USES (Uses)
(carrier recombination-controlling **layer**; Org. **electroluminescent device** and its manuf.)
IT 37271-44-6
RL: DEV (Device component use); USES (Uses)
(cathode; Org. electroluminescent device and its manuf.)
IT 7385-67-3 51325-91-8
RL: DEV (Device component use); USES (Uses)
(colorant-doped layer; Org. electroluminescent device and its manuf.)
IT 50926-11-9, Indium tin oxide
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(electrode; org. electroluminescent device with high luminance)
IT 2085-33-8 83054-79-9
RL: DEV (Device component use); USES (Uses)
(electron-transporting layer; Org. electroluminescent device and its manuf.)
IT 65181-78-4
RL: DEV (Device component use); USES (Uses)
(hole-transporting layer; Org. electroluminescent device and its manuf.)
IT **163226-12-8**
RL: DEV (Device component use); USES (Uses)
(carrier recombination-controlling **layer**; Org. **electroluminescent device** and its manuf.)
RN 163226-12-8 HCAPLUS
CN 4H-1,2,4-Triazole, 3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-(4-ethylphenyl)- (9CI) (CA INDEX NAME)



L31 ANSWER 18 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1991:418321 HCAPLUS
DN 115:18321
TI Organic thin film electroluminescent device
IN Ishiko, Masayasu; Utsuki, Koji; Nunomura, Keiji
PA NEC Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H05B033-14
ICS C09K011-06; H05B033-10
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02213088	A2	19900824	JP 1989-34026	19890213
PRAI	JP 1989-34026		19890213		

AB The title electroluminescent device in which an org. phosphor thin film **layer** is sandwiched between a **pair** of **electrodes** .gtoreq.1 of which is transparent is obtained by contacting 1 or both sides of the phosphor thin film **layer** with either a pos. hole conducting org. thin film **layer** contg. an org. compd. possessing a porphyrin- or phthalocyanine ring structure to an electron acceptor compd. had ban added or an electron-conducting thin-film **layer** contg. the above org. compd. to which .gtoreq.1 electron donor compds. had been added. The device serves as a planar light source or is used in displays.

ST electroluminescent device porphyrin phthalocyanin; luminophor org luminescent device
IT Electroluminescent devices
(org. luminophor thin film using)
IT 2085-33-8
RL: PRP (Properties)
(electroluminescent device using)
IT 670-54-2, Tetracyanoethylene, uses and miscellaneous 1487-82-7 1518-13-4 1518-16-7
RL: USES (Uses)
(electron-acceptor compd. electroluminescent device using)
IT 527-21-9 5104-27-8, Hexacyanobutadiene 70861-70-0, Trinitrofluorene

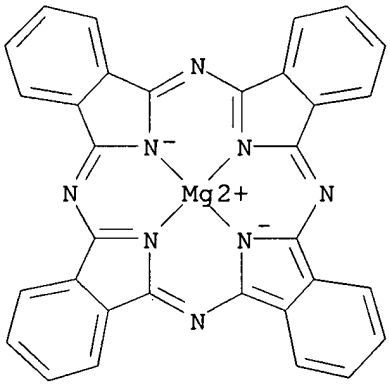
RL: PRP (Properties)
(electron-acceptor compd. electroluminescent device using)

IT 79-55-0, Pyrilene 92-84-2, 10H-Phenothiazine 106-50-3, 1,4-Benzenediamine, uses and miscellaneous 31366-25-3 55259-49-9
RL: PRP (Properties)
(electron-donor compd., electroluminescent device using)

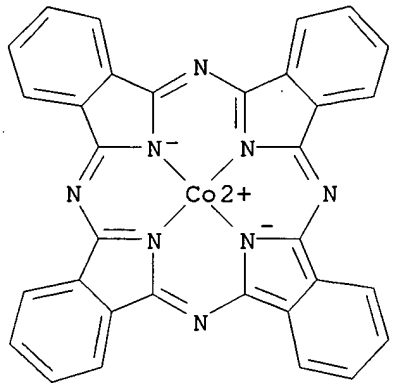
IT 574-93-6, 29H,31H-Phthalocyanine **1661-03-6**, Magnesium phthalocyanin **3317-67-7**, Cobaltphthalocyanin 14052-02-9, Zincporphyrin 14244-55-4 **14320-04-8** 14640-21-2 16834-13-2 21328-73-4 22112-78-3 27755-13-1 55915-17-8 120926-75-2 134373-81-2
RL: PRP (Properties)
(pos. hole injection or electron conduction **layer** contg., **electroluminescent device** using)

IT **1661-03-6**, Magnesium phthalocyanin **3317-67-7**, Cobaltphthalocyanin **14320-04-8**
RL: PRP (Properties)
(pos. hole injection or electron conduction **layer** contg., **electroluminescent device** using)

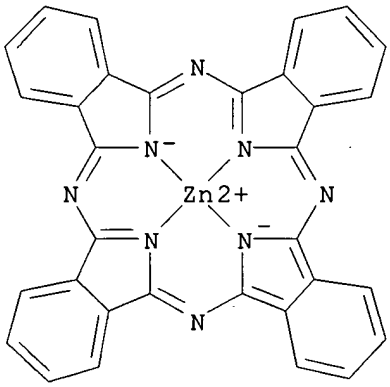
RN 1661-03-6 HCAPLUS
CN Magnesium, [29H,31H-phthalocyaninato(2-)-.kappa.N29,.kappa.N30,.kappa.N31, .kappa.N32]-, (SP-4-1)- (9CI) (CA INDEX NAME)



RN 3317-67-7 HCAPLUS
CN Cobalt, [29H,31H-phthalocyaninato(2-)-.kappa.N29,.kappa.N30,.kappa.N31,.kappa.N32]-, (SP-4-1)- (9CI) (CA INDEX NAME)



RN 14320-04-8 HCAPLUS
CN Zinc, [29H,31H-phthalocyaninato(2-)-.kappa.N29,.kappa.N30,.kappa.N31,.kappa.N32]-, (SP-4-1)- (9CI) (CA INDEX NAME)



L31 ANSWER 19 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:616512 HCAPLUS
DN 105:216512
TI Electroluminescent device
IN Eguchi, Takeshi; Kawada, Haruki; Nishimura, Yukio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K011-06
ICS H05B033-14
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61055184	A2	19860319	JP 1984-176726	19840827
PRAI	JP 1984-176726		19840827		

AB An electroluminescent device has a 2-luminescent-**layer** structure sandwiched between **2 electrodes** (1 or both of which are transparent), the 1st luminescent **layer** being a mixed mol. deposition film consisting of a mixt. contg. an electroluminescent org. compd. (I) and an org. compd. which is an electron-acceptor relative to I and the 2nd **layer** being a mixed monomol. or a built-up film consisting of a mixt. contg. I or an electroluminescent compd. having the same electronegativity as I, and an org. compd. which is an electron donor relative to I.

ST org two layer electroluminescence device

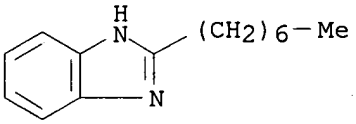
IT Electroluminescent devices
(two-layer org. donor/acceptor)

IT 84-65-1 119-61-9, uses and miscellaneous 120-12-7, uses and miscellaneous 129-00-0, uses and miscellaneous **5851-49-0** 70022-36-5 73025-00-0 104653-17-0
RL: PRP (Properties)
(**electroluminescent device** using, two-**layer** donor/acceptor)

IT **5851-49-0**
RL: PRP (Properties)
(**electroluminescent device** using, two-**layer** donor/acceptor)

RN 5851-49-0 HCAPLUS

CN 1H-Benzimidazole, 2-heptyl- (9CI) (CA INDEX NAME)



L31 ANSWER 20 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1986:616504 HCAPLUS

DN 105:216504

TI Electroluminescent device

IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09K011-06

CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61043688	A2	19860303	JP 1984-164237	19840807
PRAI JP 1984-164237		19840807		

AB An electroluminescent device has a 2-luminescent-**layer** structure sandwiched between **2 electrode** (1 or both of which are transparent), the 1st luminescent **layer** being a mixed mol. deposition film consisting of a mixt. contg. an electroluminescent org. compd. (I) which is an electron acceptor relative to the 2nd luminescent **layer** and an org. compd. which is an electron donor relative to I, and the 2nd **layer** being a mixed mol. deposition film consisting

of a mixt. contg. an electroluminescent org. compd. (II) which is an electron donor relative to the 1st **layer** and an org. compd. which is an electron acceptor relative to II.

ST org two layer electroluminescent device

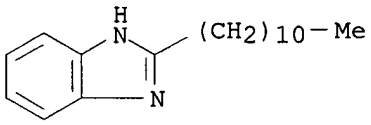
IT Electroluminescent devices
(two-layer org. donor/acceptor)

IT 84-65-1 120-12-7, uses and miscellaneous 129-00-0, uses and miscellaneous 271-44-3 603-34-9 **5851-51-4** 105380-62-9
RL: PRP (Properties)
(**electroluminescent device** using, two-**layer** donor/acceptor)

IT **5851-51-4**
RL: PRP (Properties)
(**electroluminescent device** using, two-**layer** donor/acceptor)

RN 5851-51-4 HCAPLUS

CN 1H-Benzimidazole, 2-undecyl- (9CI) (CA INDEX NAME)



L31 ANSWER 21 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1986:616500 HCAPLUS

DN 105:216500

TI Electroluminescent device

IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09K011-06

CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61044976	A2	19860304	JP 1984-165613	19840809
PRAI	JP 1984-165613		19840809		

AB An electroluminescent device has a 3-luminescent-**layer** laminated structure and **2** sandwiching **electrodes**, at least 1 of which is transparent, the 1st and the 3rd luminescent **layers** being monomol. or built-up films consisting of an electroluminescent org. compd. which is an electron donor relative to the 2nd luminescent **layer**, and the 2nd **layer** being a mol. deposition film consisting of an electroluminescent org. compd. which is an electron acceptor relative to the 1st and the 3rd **layers**.

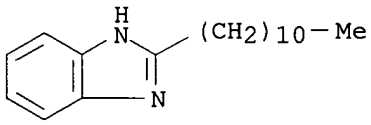
ST three layer org electroluminescent device

IT Electroluminescent devices
(org. electron donor/acceptor, 3-layer structure)

IT 120-12-7, uses and miscellaneous 129-00-0, uses and miscellaneous **5851-51-4** 104653-19-2 105129-67-7 105129-69-9
RL: USES (Uses)

(**electroluminescent device** using, 3-**layer** laminate structure)

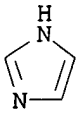
IT **5851-51-4**
RL: USES (Uses)
(**electroluminescent device** using, 3-**layer** laminate structure)
RN 5851-51-4 HCAPLUS
CN 1H-Benzimidazole, 2-undecyl- (9CI) (CA INDEX NAME)



L31 ANSWER 22 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:616499 HCAPLUS
DN 105:216499
TI Electroluminescent device
IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K011-06
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61044977	A2	19860304	JP 1984-165614	19840809
PRAI JP 1984-165614		19840809		

AB An electroluminescent device has a 3-luminescent-**layer** laminated structure and **2** sandwiching **electrodes**, at least 1 of which is transparent, the 1st and the 3rd luminescent **layers** being mol.-deposition films consisting of an electroluminescent org. compd. which is an electron donor relative to the 2nd luminescent **layer**, and the 2nd **layer** being a monomol. or a built-up film consisting of an electroluminescent org. compd. which is an electron acceptor relative to the 1st and the 3rd **layers**.
ST three layer org electroluminescent device
IT Electroluminescent devices
(org. electron donor/acceptor, 3-layer structure)
IT 86-74-8 **288-32-4**, uses and miscellaneous 104653-17-0 105129-67-7 105169-40-2 105169-41-3
RL: PRP (Properties)
(**electroluminescent device** using, 3-**layer** laminate structure)
IT **288-32-4**, uses and miscellaneous
RL: PRP (Properties)
(**electroluminescent device** using, 3-**layer** laminate structure)
RN 288-32-4 HCAPLUS
CN 1H-Imidazole (9CI) (CA INDEX NAME)

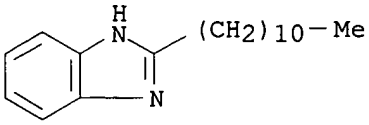


L31 ANSWER 23 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:616480 HCAPLUS
DN 105:216480
TI Electroluminescent device
IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K011-06
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61037891	A2	19860222	JP 1984-158892	19840731
	US 4725513	A	19880216	US 1987-21610	19870303

PRAI JP 1984-158886 19840731
JP 1984-158892 19840731
JP 1984-164231 19840807
JP 1984-164232 19840807
US 1985-759884 19850729

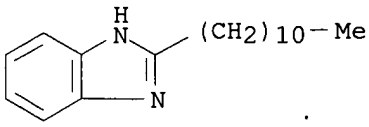
AB An electroluminescent device consists of a luminescent 2-**layer** structure sandwiched between **2 electrodes**, .gtoreq.1 of which is transparent, the 1st luminescent **layer** being a mixed monomol. or a built-up film of a mixt. comprising an org. electroluminescent compd. electron-accepting relative to the 2nd luminescent **layer** and an org. compd. electron-accepting relative to the above compd., and the 2nd **layer** being a mixed monomol. or built-up film of a mixt. comprising an org. electroluminescent compd. electron-donating relative to the 1st **layer** and org. compd. electron-donating relative to the above compd.
ST org two layer electroluminescent device
IT Electroluminescent devices
(org. electron donor/acceptor, two-layer structure)
IT **5851-51-4** 73025-00-0 104653-17-0 104653-20-5 104653-21-6 105380-60-7
RL: PRP (Properties)
(**electroluminescent device** using, two-**layer** structure)
IT **5851-51-4**
RL: PRP (Properties)
(**electroluminescent device** using, two-**layer** structure)
RN 5851-51-4 HCAPLUS
CN 1H-Benzimidazole, 2-undecyl- (9CI) (CA INDEX NAME)



L31 ANSWER 24 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:616462 HCAPLUS
DN 105:216462
TI Electroluminescent device
IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61044979	A2	19860304	JP 1984-165616	19840809
PRAI JP 1984-165616		19840809		

AB An electroluminescent device has a laminated structure of 3 luminescent **layers** sandwiched between **2 electrodes**, of which at least 1 is transparent, the 1st luminescent **layer** being a monomol. or a built-up film consisting of .gtoreq.1 electroluminescent org. compd., which is an electron donor relative to the 2nd luminescent **layer**, the 2nd **layer** being a monomol. or a built-up film consisting of .gtoreq.1 electroluminescent org. compd. which is an electron acceptor relative to the 1st **layer** but an electron donor relative to the 3rd luminescent **layer**, and the 3rd **layer** being a monomol. or a built-up film consisting of .gtoreq.1 electroluminescent org. compd. which is an electron acceptor relative to the 2nd **layer**.
ST three layer org electroluminescent device
IT Electroluminescent devices
(org. electron donor/acceptor, 3-layer structure)
IT **5851-51-4** 71942-36-4 104653-19-2 105129-69-9 105328-62-9 105328-63-0 105328-65-2
RL: PRP (Properties)
(**electroluminescent device** using, 3-**layer** laminated structure)
IT **5851-51-4**
RL: PRP (Properties)
(**electroluminescent device** using, 3-**layer** laminated structure)
RN 5851-51-4 HCAPLUS
CN 1H-Benzimidazole, 2-undecyl- (9CI) (CA INDEX NAME)

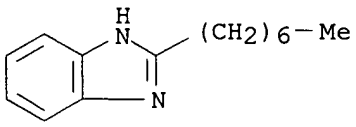


L31 ANSWER 25 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:616461 HCAPLUS
DN 105:216461
TI Electroluminescent device
IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61044980	A2	19860304	JP 1984-165617	19840809
PRAI	JP 1984-165617		19840809		

AB An electroluminescent device has a laminated structure of 3 luminescent **layers** sandwiched between **2 electrodes**, of which at least 1 is transparent, the 1st luminescent **layer** being a monomol. or a built-up film consisting of .gtoreq.1 electroluminescent org. compd., which is an electron donor relative to the 2nd luminescent **layer**, the 2nd **layer** being a monomol. or a built-up film consisting of .gtoreq.1 electroluminescent org. compd. which is an electron acceptor relative to the 1st **layer** but an electron donor relative to the 3rd luminescent **layer**, and the 3rd **layer** being a mol. deposition film consisting of .gtoreq.1 electroluminescent org. compd. which is an electron acceptor relative to the 2nd **layer**.

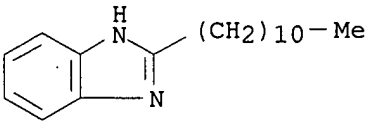
ST three layer org electroluminescent device
IT Electroluminescent devices
(org. electron donor/acceptor, 3-layer structure)
IT 2128-93-0 4981-66-2 **5851-49-0** 104653-17-0 105129-69-9 105169-40-2 105169-41-3 105328-66-3
RL: PRP (Properties)
(**electroluminescent device** using, 3-**layer** laminated structure)
IT **5851-49-0**
RL: PRP (Properties)
(**electroluminescent device** using, 3-**layer** laminated structure)
RN 5851-49-0 HCAPLUS
CN 1H-Benzimidazole, 2-heptyl- (9CI) (CA INDEX NAME)



L31 ANSWER 26 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:616459 HCAPLUS
DN 105:216459
TI Electroluminescent device
IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K011-06
ICS H05B033-14
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61044982	A2	19860304	JP 1984-165619	19840809
PRAI JP 1984-165619		19840809		

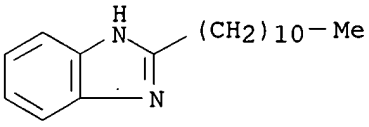
AB An electroluminescent device has a laminated structure of 3 luminescent **layers** sandwiched between **2 electrodes**, of which at least 1 is transparent, the 1st luminescent **layer** being a monomol. or a built-up film consisting of .gtoreq.1 electroluminescent org. compd., which is an electron donor relative to the 2nd luminescent **layer**, the 2nd **layer** being a mol. deposition film consisting of .gtoreq.1 electroluminescent org. compd. which is an electron acceptor relative to the 1st **layer** but an electron donor relative to the 3rd luminescent **layer**, and the 3rd **layer** being a monomol. or a built-up film consisting of .gtoreq.1 electroluminescent org. compd. which is an electron acceptor relative to the 2nd **layer**.
ST three layer org electroluminescent device
IT Electroluminescent devices
(org. electron donor/acceptor, 3-layer structure)
IT 120-12-7, uses and miscellaneous 129-00-0, uses and miscellaneous **5851-51-4** 105129-69-9 105169-43-5 105328-62-9 105328-67-4
RL: USES (Uses)
(**electroluminescent device** using, 3-**layer** laminated structure)
IT **5851-51-4**
RL: USES (Uses)
(**electroluminescent device** using, 3-**layer** laminated structure)
RN 5851-51-4 HCAPLUS
CN 1H-Benzimidazole, 2-undecyl- (9CI) (CA INDEX NAME)



L31 ANSWER 27 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:616458 HCAPLUS
DN 105:216458
TI Electroluminescent device
IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61044983	A2	19860304	JP 1984-165620	19840809
PRAI	JP 1984-165620		19840809		

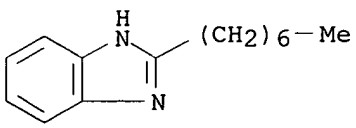
AB An electroluminescent device has a laminated structure of 3 luminescent **layers** sandwiched between **2 electrodes**, of which at least 1 is transparent, the 1st luminescent **layer** being a monomol. or a built-up film consisting of .gtoreq.1 electroluminescent org. compd., which is an electron donor relative to the 2nd luminescent **layer**, the 2nd **layer** being a mol. deposition film consisting of .gtoreq.1 electroluminescent org. compd. which is an electron acceptor relative to the 1st **layer** but an electron donor relative to the 3rd luminescent **layer** and the 3rd **layer** being a mol. deposition film consisting of .gtoreq.1 electroluminescent org. compd. which is an electron acceptor relative to the 2nd **layer**.
ST three layer org electroluminescent device
IT Electroluminescent devices
(org. electron donor/acceptor, 3-layer structure)
IT 84-65-1 120-12-7, uses and miscellaneous 129-00-0, uses and miscellaneous 2128-93-0 **5851-51-4** 104653-19-2 105129-69-9
RL: PRP (Properties)
(**electroluminescent device** using, 3-**layer** laminated structure)
IT **5851-51-4**
RL: PRP (Properties)
(**electroluminescent device** using, 3-**layer** laminated structure)
RN 5851-51-4 HCAPLUS
CN 1H-Benzimidazole, 2-undecyl- (9CI) (CA INDEX NAME)



L31 ANSWER 28 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:600291 HCAPLUS
DN 105:200291
TI Electroluminescent device
IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K011-06
ICS H05B033-14
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61047782	A2	19860308	JP 1984-167894	19840813
PRAI	JP 1984-167894		19840813		

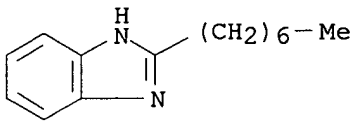
AB An electroluminescent device has a 3-luminescent-**layer** laminated structure and **2** sandwiching **electrodes**, .gtoreq.1 of which is transparent, the 1st luminescent **layer** being a mol. deposition film consisting of an electroluminescent org. compd. (I) and .gtoreq.1 org. compd. which is an electron donor relative to I, the 2nd **layer** being a monomol. or built-up film consisting of I or an electroluminescent org. compd. having the same electronegativity as I, and the 3rd **layer** being a monomol. or built-up film consisting of I or an electroluminescent org. compd. having the same electronegativity as I, and .gtoreq.1 org. compd. which is an electron acceptor relative to I.
ST three layer org electroluminescent device
IT Electroluminescent devices
(org. electron donor/acceptor, 3-layer structure)
IT 84-65-1 120-12-7, uses and miscellaneous 2128-93-0 **5851-49-0** 105129-69-9 105169-40-2 105169-41-3
RL: PRP (Properties)
(**electroluminescent devices** using, 3-**layer** laminate)
IT **5851-49-0**
RL: PRP (Properties)
(**electroluminescent devices** using, 3-**layer** laminate)
RN 5851-49-0 HCAPLUS
CN 1H-Benzimidazole, 2-heptyl- (9CI) (CA INDEX NAME)



L31 ANSWER 29 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:600290 HCAPLUS
DN 105:200290
TI Electroluminescent device
IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K011-06
ICS H05B033-14
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61047783	A2	19860308	JP 1984-167895	19840813
PRAI JP 1984-167895		19840813		

AB An electroluminescent device has a 3-luminescent-**layer** laminated structure and **2** sandwiching **electrodes**, .gtoreq.1 of which is transparent, the 1st luminescent **layer** being a monomol. or a built-up film consisting of an electroluminescent org. compd. (I) and .gtoreq.1 org. compd. which is an electron donor relative to I, the 2nd **layer** being a mol. deposition film consisting of I or an electroluminescent org. compd. having the same electronegativity as I, and the 3rd **layer** being a monomol. or built-up film consisting of I or an electroluminescent org. compd. having the same electronegativity as I, and .gtoreq.1 org. compd. which is an electron acceptor relative to I.
ST three layer org electroluminescent device
IT Electroluminescent devices
(org. electron donor/acceptor, 3-layer structure)
IT 120-12-7, uses and miscellaneous **5851-49-0** 81649-33-4 105129-69-9 105169-40-2 105169-41-3 105169-43-5
RL: USES (Uses)
(**electroluminescent devices** using, 3-**layer** laminate)
IT **5851-49-0**
RL: USES (Uses)
(**electroluminescent devices** using, 3-**layer** laminate)
RN 5851-49-0 HCAPLUS
CN 1H-Benzimidazole, 2-heptyl- (9CI) (CA INDEX NAME)

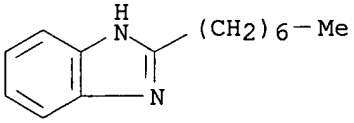


L31 ANSWER 30 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:600288 HCAPLUS
DN 105:200288
TI Electroluminescent device

IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K011-06
ICS H05B033-14
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61047786	A2	19860308	JP 1984-167898	19840813
PRAI JP 1984-167898		19840813		

AB An electroluminescent device has a 3-luminescent-**layer** laminated structure and **2** sandwiching **electrodes**, .gtoreq.1 of which is transparent, the 1st luminescent **layer** being a mol. deposition film consisting of an electroluminescent org. compd. (I) and .gtoreq.1 org. compd. which is an electron donor relative to I, the 2nd **layer** being a mol. deposition film consisting of I or an electroluminescent org. compd. having the same electronegativity as I, and the 3rd **layer** being a monomol. or a built-up film consisting of I or an electroluminescent org. compd. having the same electronegativity as I, and .gtoreq.1 org. compd. which is an electron acceptor relative to I.
ST three layer org electroluminescent device
IT Electroluminescent devices
(org. electron donor/acceptor, 3-layer structure)
IT 84-65-1 120-12-7, uses and miscellaneous 2128-93-0 **5851-49-0** 105129-69-9 105169-41-3 105169-45-7
RL: PRP (Properties)
(**electroluminescent devices** using, 3-**layer** laminate)
IT **5851-49-0**
RL: PRP (Properties)
(**electroluminescent devices** using, 3-**layer** laminate)
RN 5851-49-0 HCAPLUS
CN 1H-Benzimidazole, 2-heptyl- (9CI) (CA INDEX NAME)



L31 ANSWER 31 OF 31 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:600287 HCAPLUS
DN 105:200287
TI Electroluminescent device
IN Eguchi, Takeshi; Kawada, Harunori; Nishimura, Yukio
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent

LA Japanese
IC ICM C09K011-06
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61044987	A2	19860304	JP 1984-166402	19840810
PRAI	JP 1984-166402		19840810		

AB An electroluminescent device has a 3-luminescent-**layer** laminated structure and **2** sandwiching **electrodes**, .gtoreq.1 of which is transparent, the 1st luminescent **layer** being a monomol. or built-up film consisting of an electroluminescent org. compd. (I) and .gtoreq.1 org. compd which is an electron donor relative to I, the 2nd **layer** being a monomol. or built-up film consisting of I or an electroluminescent org. compd. having the same electronegativity as I, and the 3rd **layer** being a monomol. or built-up film consisting of I or an electroluminescent org. compd. having the same electronegativity as I, and .gtoreq.1 org. compd. which is an electron acceptor relative to I.
ST three layer org electroluminescent device
IT Electroluminescent devices
(org. electron donor/acceptor, 3-layer structures)
IT **5851-51-4** 104653-17-0 105169-35-5 105169-37-7 105169-38-8 105169-39-9
RL: PRP (Properties)
(**electroluminescent devices** using, 3-**layer** laminate)
IT **5851-51-4**
RL: PRP (Properties)
(**electroluminescent devices** using, 3-**layer** laminate)
RN 5851-51-4 HCAPLUS
CN 1H-Benzimidazole, 2-undecyl- (9CI) (CA INDEX NAME)